

Supplemental
Draft Environmental Impact Statement
of the
Proposed
Shoreline Management Program



January, 2010

Distribution List

Federal Agencies

U.S. Natural Resource Conservation
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service

U.S. Army Corps of Engineers
National Marine Fisheries
U.S. Department of Agriculture, Forest Service

State Agencies

The Office of the Governor
Department of Ecology
Department of Natural Resources
Department of Commerce
Department of Agriculture
Department of Social and Health Services
Utilities & Transportation Commission
Department of Corrections

Department of Fish & Wildlife
Department of Health
Department of Transportation
WA State Energy Office
Office of Archaeology and Historical Preservation
Parks and Recreation Commission
Department of Transportation, Northwest Region
Interagency Committee on Outdoor Recreation

Regional Agencies and Interest Groups

Puget Sound Partnership
Puget Sound Clean Air Agency

Puget Sound Regional Council
Regional Transit Authority

Snohomish County Agencies and Interest Groups

Snohomish County Department of Public Works
Snohomish County Sheriff
Snohomish County Surface Water Management Division
1000 Friends of Snohomish County
Action Council for Esperance
Agriculture Tomorrow
Arlington Heights Comm.
Canyon Firs Homeowners Assn.
Cavalero Residents for Responsible Growth
Community Transit
Crestline Estates Action
Economic Development Council of Snohomish County
Edmonds Chamber of Commerce
Everett Chamber of Commerce
Everett Transit
Friends of Florence Acres
Futurewise
Housing Authority of Snohomish County
Jordan Road Citizens
Kayak Pt. Citizens Group
League of Women Voters
Little Bear Cr. Protective Assn.
Martha Lake Community Club
Martha Lake Homeowners

Snohomish County Parks and Recreation Department
Snohomish County Solid Waste Division
Snohomish Health District
Master Builders Assoc. of King and Sno Co
McKee's Evergreen Beach
Newberg Organization
North Creek Rural Areas
North Marysville Citizens
Picnic Point Community
Pilchuck Audubon Society
Possession Bay Association
Professional Consultants
Silver Lake Action Comm.
Smartgrowth Campaign
Snohomish Arlington Trail Coalition
Snohomish County Conservation District
Snohomish County/Camano Island Board of Realtors
Snohomish Wetlands Alliance
So. Sno. Co. Chamber of Commerce
Sound Transit
Stillaguamish Citizens Alliance
Swamp Creek Locust Way
Tom Ehrlichman
Toyer Consulting & Advocacy, LLC
Wandering Creek Homes

Neighboring Planning Departments

Island County Planning Dept.
Skagit County Planning Dept.

Dept. of Dev. & Environ. Services (King Co.)
Chelan County Planning Dept.

Tribes

Muckleshoot Tribes
Sauk/Suiattle Tribe

Tulalip Tribes
Stillaguamish Tribe

Utilities

Alderwood Water District
Lake Stevens Sewer District
Olympic View Water and Sewer District
Silver Lake Water and Sewer
Snohomish County PUD No. 1
Highland Water Assn.
Seven Lakes Water Assn.
Sky Meadow Water Assn., Inc.
Puget Sound Energy

Cross Valley Water District
METRO
Mukilteo Water District
Diking District #2
Cascade Natural Gas
Roosevelt Water Assn.
Three Lakes Water Assn.
King County Wastewater Treatment Division

Cities

City of Arlington
City of Brier
City of Edmonds
City of Gold Bar
Town of Index
City of Lynnwood
City of Mill Creek
City of Mountlake Terrace
City of Snohomish
City of Sultan

City of Bothell
Town of Darrington
City of Everett
City of Granite Falls
City of Lake Stevens
City of Marysville
City of Monroe
City of Mukilteo
City of Stanwood
Town of Woodway

School Districts

Arlington School District
Edmonds School District #15
Granite Falls School District
Lake Stevens School District
Marysville School District
Mukilteo School District
Snohomish School District
Sultan School District

Darrington School District
Everett School District
Index School District
Lakewood School District
Monroe School District
Northshore School District
Stanwood School District

Fire Districts & Ports

Fire District 1 South County
Fire District 4 Snohomish
Fire District 7 Clearview
Fire District 10 Bothell
Fire District 12 Marysville
Fire District 15 Tulalip
Fire District 17 Granite Falls
Fire District 19 Silvana

Fire District 3 Monroe
Fire District 5 Sultan
Fire District 8 Lake Stevens
Fire District 11 Silver Lakes
No. County Regional Fire Authority
Fire District 16 Lake Roesiger
Fire District 28 Index
Fire District 22 Getchell

Fire District 21 Arlington
Fire District 23 Robe
Fire District 25 Oso
Fire District 27 Hat Island
Paine Field Fire District

Newspapers

The Herald
Arlington Times
Snohomish County Tribune
Mukilteo Beacon
Monroe Monitor
Marysville Globe
Bothell-Kenmore Reporter

Libraries

Arlington Library
Brier Public Library
Edmonds Public Library
Granite Falls Library
Lynnwood Public Library
Mill Creek Library
Mountlake Terrace Library
Sno-Isle Regional Library
Stanwood Library

Fire District 24 Darrington
Fire District 26 Gold Bar
Port of Everett
Port of Edmonds

Lake Stevens Journal
Seattle Times-North Bureau
Seattle PI
Mill Creek Enterprise
Woodinville Weekly
Enterprise Newspaper
The Edmonds Beacon

Bothell Library
Darrington Library
Everett Public Library
Lake Stevens Library
Marysville Public Library
Monroe Library
Mukilteo Public Library
Snohomish Public Library
Sultan Library

Fact Sheet

Project Title

Snohomish County Shoreline Management Program Update

Lead Agency Information

Responsible Official: Larry W. Adamson, AICP, Acting Director
Snohomish County Planning & Development Services
3000 Rockefeller Avenue, MS 604
Everett, WA 98201
(425) 388-3311

Contact: Terri Strandberg, Project Manager
Snohomish County Planning & Development Services
3000 Rockefeller Avenue, MS 604
Everett, WA 98201
(425) 388-3311, Ext. 2359

Proposed Action

Snohomish County is revising the Shoreline Management Program (SMP) as required by state law, RCW 90.58. The state Shoreline Management Act (SMA) recognizes that shorelines are among the most valuable and fragile of the state's natural resources, and there is great concern relating to their utilization, protection, restoration, and preservation. To this end, the SMA requires that local governments adopt shoreline management programs to balance the use and development of the shorelines for economic and residential use, public access and recreation, and preservation and restoration. The proposed action for Snohomish County will require adoption of a new SMP, including revisions to Snohomish County Code (SCC), Title 30.

This Supplemental Draft Environmental Impact Statement (SEIS) is a non-project programmatic document authorized under the State Environmental Policy Act (SEPA), WAC 197-11-442. The purpose of the document is to provide readers with a broad understanding of the proposed program sufficient to determine differences between proposed alternatives. This SEIS evaluates three alternatives:

Alternative 1: Existing Program: Maintains existing County SMP.

Alternative 2: Proposed Program: Modifies County shoreline master program to comply with new state SMP Guidelines.

Alternative 3: Reduced Jurisdiction Program: Modifies County SMP to be in compliance with new state SMP Guidelines with a reduced jurisdictional boundary.

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Permits, Certifications, Licenses & Other Required Actions or Approvals

Because this proposal is regulatory and programmatic, the action of adopting the SMP does not require individual licenses or permits.

Date of Issue of SEIS

Comments on the SEIS

Affected agencies, tribes, and members of the public are invited to comment on this SEIS. Comment may be submitted in writing by postal mail or e-mail to Terri Strandberg. All comments must be received by 5 p.m. on [REDACTED], to receive consideration.

Anticipated Final Action Date

Approval of the Shoreline Management Program by the Snohomish County Council is anticipated in [REDACTED].

Document Availability

Information regarding the availability of this SEIS will appear in the Everett Herald and will be mailed to all parties on the Shoreline Management Program Update project mailing list. Copies will be available for review at the County Administration Building, 3000 Rockefeller Avenue, Everett, Washington and in public libraries located in Arlington, Stanwood, Lake Stevens, Granite Falls, Snohomish and Monroe. The SEIS and future project updates will be available on the Snohomish County Web site:

http://www1.co.snohomish.wa.us/Departments/PDS/Divisions/Code_Development/Shorelines/SMPUpdate.htm

Copies of the SEIS are available on CD-ROM from Snohomish County at \$5 plus \$1.50 postage. To obtain a copy of the SEIS on CD-ROM, please contact Lori Lollis at Snohomish County: (425) 388-3311, Ext. 2206. A limited number of paper copies of the SEIS are available for \$15 at Snohomish County Planning and Development Services, 3000 Rockefeller Avenue, Everett, Washington.

Location of Background Material

Background material and supporting documents for this SEIS are available for review at Snohomish County Planning and Development Services.

EIS Authors & Principal Contributors

The SEIS has been prepared by Snohomish County Planning and Development Services.

Abbreviations & Acronyms

BMP	Best Management Practices
BNSF	Burlington Northern/Santa Fe
CFS	Cubic Feet Per Second
CMZ	Channel Migration Zone
CUP	Conditional use permit
DEIS	Draft Environmental Impact Statement
DNS	Determination of Non-Significance
DOE	Washington Department of Ecology
DNR	Department of Natural Resources
EIS	Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FLUM	Future Land Use Map (part of the County's comprehensive plan)
GC	General Commercial (County zoning classification)
GIS	Geographic Information Systems
GMA	Growth Management Act (Chapter 36.70A RCW)
LWD	Large woody debris
MRO	Mineral Resource Overlay (part of the County's GMA comprehensive plan)
MWU	Municipal Watershed Utility (proposed SMP shoreline environment designation)
OHWM	Ordinary High Water Mark
PIE	Public Involvement /Environment (a division of the County's Public Works department)
PSDDA	Puget Sound Dredge Disposal Analysis
PUD	Public Utility District
RB	Rural Business (County zoning classification)
RCW	Revised Code of Washington
RFS	Rural Freeway Service (County zoning classification)
RI	Rural Industrial (County zoning classification)
SAC	Shoreline Advisory Committee
SCC	Snohomish County Code
SEIS	Supplemental Environmental Impact Statement
SEPA	State Environmental Policy Act
SMA	Shoreline Management Act
SMMP	Shoreline Management Master Program (known herein as the existing SMMP)
SMP	Shoreline Management Program (known herein as the proposed SMP)
SSWS	Shorelines of Statewide Significance
UGA	Urban Growth Area
WAC	Washington Administrative Code
WSDFW	Washington State Department of Fish & Wildlife

Summary of Findings

The proposed Shoreline Management Program (proposed SMP) jurisdiction covers approximately 139,872 acres of Snohomish County compared to 132,280 acres under the existing Shoreline Management Master Program (existing SMMP). A reduced jurisdiction alternative would cover 118,768 acres. The reduced jurisdiction alternative covers all the same shorelines as the proposed SMP but excludes a portion of the 100-year floodplain that is included in both the existing SMMP and the proposed SMP. In all three alternatives, approximately 54,300 of the total acres extend out into the waters of Puget Sound. The shoreline jurisdiction for the three alternatives can be compared as follows:

Overview Comparison of Alternatives: Extent of Shoreline Jurisdiction			
Program Statistics	Alternative 1: Existing SMMP	Alternative 2: Proposed SMP	Alternative 3: Reduced Jurisdiction
Total Acres *	132,280	139,872	120,413
Acres * – not including water areas	66,176	73,088	53,629
Number of Rivers	53	177	177
Number of Lakes	43	53	53
Floodplain	100-year floodplain	100-year floodplain	Floodway plus 200' landward
Shorelands	200' from OHWM**	200' from OHWM**	200' from OHWM**
Associated Areas	Wetlands, estuaries	Wetlands, estuaries	Wetlands, estuaries

* Acreages should be considered estimates and may not add to totals due to imperfect overlap of polygons in the county's geographic data layers between the existing shoreline program and the proposed program.

** OHWM = ordinary high water mark.

Environmental Impacts

GIS analysis indicates that approximately 60,117 acres would not be significantly impacted by a shift from the current designations under the existing SMMP (Alternative 1) to the new designations under the proposed SMP (Alternative 2) because the management criteria for the shoreline environments are essentially unchanged by the shift.

Approximately 24,418 acres would be subject to more stringent environmental standards due to a reduction in the allowed land use intensity either due to a shift in environment designation or because new areas have been added to the County's shoreline jurisdiction and would now be subject to SMP requirements.

An estimated 937 acres would see a potential increase in allowed land use intensity. It is here where new potential adverse environmental impacts may occur due to implementation of Alternative 2, the proposed SMP. The potential impacts depend on the type of designation shift and unique conditions present at the specific location. The most significant potential for adverse environmental impacts would result from the shift from Rural or Conservancy under the existing SMMP (Alternative 1) to Urban under the proposed SMP (Alternative 2). Approximately 411 acres of the 937 would be affected by this shift in environment designation. This shift recognizes the previous Snohomish County actions to include these areas inside urban growth area (UGA) boundaries, consistent with the FLUM as part of the adoption of the GMA comprehensive plan.

Alternative 3, the reduced jurisdiction alternative, has the same management criteria as Alternative 2 but reduces the relative shoreline jurisdiction in the 100-year floodplain, the most significant result of Alternative 3 is a reduction in the amount of land currently designated as Rural or Conservancy under the SMMP (Alternative 1) or Resource under the proposed SMP (Alternative 2). Alternative 3 applies the SMP standards to a more limited physical area than Alternative 2. The areas excluded from SMP jurisdiction under Alternative 3 would not be subject to the use preference, public access requirements or development standards contained in the SMP. However, the excluded areas under Alternative 3 must still meet the development standards and requirements for 100-year floodplains and for critical areas, as applicable. Potentially, these excluded areas could see a broader range of development options than under the SMP but would be required to provide ecological protection equivalent to SMP standards.

Economic Impacts

Direct Impacts on Affected Property Owners

In general, in areas where the proposed SMP is expected to result in significant impacts on the use of a property, the most direct impacts result from introducing new constraints on the use of property, which all else being equal, tend to result in diminished utility of the property. These impacts are the result of development constraints, and/or procedural requirements introduced by, 1) changes to SMP designations and/or 2) changes in the development regulations that accompany a given designation in the proposed SMP.

New constraints or procedural requirements will not have any practical effect on the manner in which many properties are used. However, in instances where they *will* have an effect, new constraints on the use of property will reduce the value of some properties. It is also true, however, that the vast majority of waterfront properties are likely to see benefits (and increased property values) as a result of the proposed SMP. First, increases in environmental quality will result in improved amenity benefits for all waterfront property owners. Second, to the extent that the proposed SMP does result in a reduced supply of developed or developable waterfront properties (compared to Alternative 1 where constraints on supply were less pronounced), then the decrease in the supply will increase the market value of developed or developable properties that *are* available.

Having discussed cases where the proposed SMP is likely to introduce new *constraints* or procedural requirements on use of properties, it should also be noted that, in other cases, property owners may experience direct benefits in the utility and value of their property due to the reduction, or clarification of development regulations. In these instances, property owners are likely to benefit from the proposed SMP, both directly and indirectly.

Indirect Impacts: Benefits to Communities, Local Jurisdictions, the Region, & the State

Beyond the direct impacts that the proposed SMP will have on affected property owners, the proposed SMP will also generate a series of benefits that will accrue to local communities, local jurisdictions, the region, and the state. These benefits come in the form of:

- Improvements to the overall environmental quality and increased amenity value of shorelines and water bodies for all users;
- Improvements to water quality and to the shoreline environment through better stormwater management and decreases in soil erosion;
- Increases in ecosystem health and wildlife habitat;
- Reductions in public costs associated with flooding, surface water management, and water quality management; and
- Enhancement of Snohomish County's competitive position in attracting certain high-value industries that value quality of life.

Conclusion

The proposed SMP (Alternative 2) provides the greatest level of protection for shoreline ecological functions. Policies and regulations under Alternative 2 have been developed to meet the requirements under updated WAC 173-26 resulting in stronger ecological protection than under the existing SMMP (Alternative 1). The proposed SMP also applies to a larger land area than either the existing SMMP or the reduced jurisdiction Alternative 3. The greater environmental protection afforded by the proposed SMP will also result in the greatest potential for economic impacts by restricting utility of property in many areas. However, economic impacts may be at least partially offset by economic incentives and increased amenity values.

Both Alternative 2 and 3 meet the updated requirements under the Shoreline Management Act [RCW 90.58] and the shoreline guidelines [WAC 173-18, -20, -22, -26 and -27]. When combined with the County's multifaceted approach including both regulatory and non-regulatory programs, either Alternative 2 or 3 can be expected to achieve no net loss of shoreline ecological functions. Alternative 1, the existing SMMP originally adopted in 1974, long before the recent updates to the shoreline guidelines, does not fully comply with current state requirements.

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Chapter 1 - Introduction and Overview

1.1 Purpose of the EIS

Snohomish County adopted its first shoreline master program in 1974, called the Shoreline Management Master Program (SMMP). Since then, the County has made several revisions to the program. However, the County has not conducted a comprehensive update to that program since its original adoption. In 2003, the state of Washington adopted new requirements for the contents of shoreline master programs to be administered by local governments [WAC 173-26]. Snohomish County is now in the process of updating its Shoreline Management Program (SMP) to meet the new requirements. The County update of the SMP is referred to in this EIS as the “proposed SMP.”

The County began this SMP update process in 2004 and issued Draft and Final Environmental Impact Statements in 2006. This document is a supplement to the 2006 EIS documents addressing revisions made to the draft SMP since 2006. For ease of use, the pertinent background sections of the original DEIS have been reproduced in this document. The original analysis has been updated to reflect substantive revisions to the proposed SMP.

What is a Shoreline Management Program (SMP)?

An SMP is defined in the Shoreline Management Act (SMA) as: “...the comprehensive use plan for a described area, and the use regulations together with maps, diagrams, charts, or other descriptive material and text, a statement of desired goals, and standards...” [RCW 90.58.030(3)(a)].

Every SMP is somewhat unique, and many newer SMPs are integrated to some degree into local comprehensive plans and development regulations; however, most SMPs usually include the following:

1. Introduction information on the relationship of the SMP to other regulatory programs, description of the legal framework and applicability of the SMP, and orientation on how to use the document.

2. Goals that serve as broad expressions of community desires relative to SMP “elements”: Shoreline use, economic development, public access, circulation, recreation, conservation, and historical/cultural values. Goals provide the basis for, and are intended to help frame SMP policies and regulations. The shoreline elements are required by the Shoreline Management Act (RCW 90.58.100(2)).

3. General policies and regulations that apply to shoreline uses and modification activities irrespective of environment designations. Policies are the bridge between goals and regulations, translating the general into the specific. Shoreline policies are legally enforceable.

Regulations are more specific, legally enforceable controls and standards for shoreline development.

4. Policies and regulations for shoreline uses, such as agriculture, aquaculture, mining, commercial, industrial, recreation, and boating facilities. A shoreline “use” is defined as the “end” to which a land or water area is ultimately employed. Regulations in SMPs are often referred to as “use requirements.”

5. Policies and regulations for shoreline modification activities, including dredging, piers, construction of bulkheads, and other actions undertaken in preparation for, or in support of, a shoreline use. Regulations for shoreline modification activities generally deal with construction impacts, whereas “use” regulations pertain to long-term management as well.

6. Environment designations: Shorelines are classified into specific “environment designations” based on their physical, biological, and development characteristics. Historically, shoreline master programs have used primarily four basic environment designations (“natural,” “conservancy,” “rural,” and “urban”). New state guidelines recommend six designations: “natural,” “rural conservancy,” “urban conservancy,” “high-intensity,” “shoreline residential,” and “aquatic.” Local governments may modify state recommended classifications to better accommodate shoreline areas with unique characteristics. Policies and regulations are developed for each designation that reflect the specific purpose and intent of each environment and respond to its specific conditions.

7. Administrative regulations for permit and enforcement and for making amendments to the shoreline master program. These administrative procedures do not have to be adopted as part of the SMP; they can be adopted separately. This allows the local jurisdiction to coordinate shoreline administrative procedures with other permitting and enforcement procedures and to make necessary adjustments to ensure that procedural requirements function smoothly. [WAC 173-26-191(2)(a)(iii)(C)].

8. Technical appendices, such as maps of the environment, designations, and boundary descriptions for environment designations are usually incorporated into shoreline master programs.

Non-Project EIS

Environmental Impact Statements (EIS), are intended to provide an opportunity to evaluate and compare a proposed project with alternatives that may have a lesser impact on the environment. Specific guidance is found in state law as to how to prepare EISs. In a project EIS, the analysis contains a section regarding the impacts associated with each alternative. A non-project EIS is given greater latitude with its structure and content. This non-project EIS contains an analysis of how the Existing and Proposed Programs comply with state law requirements for preparation of a shoreline master program.

Non-project actions (such as plans, policies, and programs, including shoreline master programs) are not bound by the same analysis structure. A “non-project” EIS is intended to allow the public and decision makers a broader analysis. Snohomish County has elected to consider the impacts associated with an update to its Existing Program through the use of a non-project EIS. The only requirements are that the document begin with a fact sheet and contain an environmental summary [WAC 197-11-235(4) and (5)]. Agencies may choose whatever formats they feel would best present the alternatives and environmental analysis [WAC 197-11-430(2) and -442]. Separate sections on affected environment, significant impacts, and mitigation measures are not required in integrated documents as long as this information is summarized and supported in the record [WAC 197-11-235(2)(b)]. The rules for integrated documents stress that format should be dictated by attention to the quality, scope, and level of detail of the information and analysis [WAC 197-11-235(1)].

This non-project EIS addresses the impacts associated with the implementation of a revised shoreline master program for Snohomish County. The analysis is broad and reviews the general differences between the various programs. Some aspects of a non-project EIS described in the SEPA Guidebook are as follows:

- A non-project proposal may be approved based on an EIS assessing its broad impacts.
- The lead agency (in this case, Snohomish County) shall have more flexibility in preparing EIS’s on non-project proposals, because there is normally less detailed information available on their environmental impacts as there is no specific development application. The EIS may be combined with other planning documents.
- The lead agency shall discuss impacts and alternatives in the level of detail appropriate to the scope of the non-project proposal and to the level of planning for the proposal. Alternatives should be emphasized.
- The EIS’s discussion of alternatives for a comprehensive plan, community plan, or other area-wide zoning or for shoreline or land use plans shall be limited to a general discussion of the range of possible impacts of alternate proposals for policies contained in such plans, for land use or shoreline designations, and for implementation measures. *The lead agency is not required under SEPA to examine all conceivable policies, designations, or implementation measures but should cover a range of such topics* (emphasis added). The EIS content may be limited to a discussion of alternatives that have been formally proposed or which are, while not formally proposed, reasonably related to the proposed action.

The contents of this EIS are designed to provide the reader, whether it is the public or a decision maker, with an understanding of the SMP. Towards that end, the document provides background on the Shoreline Management Act and the relationship of the County Shoreline Management Program to other County plans and policies. The document describes three alternative programs. The analysis of these programs proceeds from the macro-level

comparing program structures through a more detailed comparison of regulations developed for each program.

What is in this EIS?

Environmental Analysis

This EIS evaluates three alternatives: 1) the county's existing Shoreline Management Master Program (SMMP); 2) the proposed Shoreline Management Program (SMP); and 3) a reduced jurisdiction alternative of the proposed SMP. These alternatives will be described in detail in Chapter 2 of this EIS. In Chapter 3 of this EIS, the relative impacts on the environment will be analyzed for the three alternatives. The macro-level analysis of the alternatives will look at the physical extent of the shoreline jurisdiction, the shoreline environment designations and management criteria, and the policies and regulations. The analysis will compare how well each alternative meets the requirements of the SMA and the environmental protection goals under SEPA.

Economic Analysis

In addition to the macro-level analysis of impacts to the physical environment and shoreline ecology, this EIS also includes an economic analysis in Chapter 4. Given the complexity of the issues at play and the large number of properties that are affected by proposed SMP regulation changes, substantial resources would be required to perform a detailed analysis of the potential effects of proposed SMP regulation changes on *all* affected properties.

At the programmatic level, it is impossible to quantify a dollar value for all economic impacts and there is insufficient detail to determine impacts specific to a given property. Instead, the impacts will be assessed qualitatively looking at the concepts of diminished utility, increased development costs, and supply of developable land. Probable adverse economic impacts, from the landowners' perspective, might be expected due to implementation of the SMP on lands not previously regulated under the SMA or on lands where implementation of the proposed SMP will result in more restrictive development regulations compared to the existing SMMP. Conversely, positive economic impacts may result from a relative reduction in development restrictions and from enhanced amenities associated with pristine shoreline environments.

1.2 Legal Framework – The Shoreline Management Act (SMA)

Local jurisdictions must comply with the statewide Shoreline Management Act of 1971 found in chapter 90.58 RCW. The Washington State Department of Ecology (DOE) oversees implementation of the SMA. Guidelines for implementation of the SMA are contained in several chapters of the Washington Administrative Code: 173-18, 173-20, 173-22, 173-26 and 173-27. The DOE reviews all SMPs developed and adopted at the local level for compliance and consistency with the SMA and the guidelines.

The DOE in adopting guidelines for shorelines of statewide significance, and local government in developing master programs for shorelines of statewide significance, shall give preference to uses in the following order:

- Recognize and protect the statewide interest over local interest.
- Preserve the natural character of the shoreline.
- Result in long-term over short-term benefit.
- Protect the resources and ecology of the shoreline.
- Increase public access to publicly owned areas of the shorelines.
- Increase recreational opportunities for the public in the shoreline.
- Provide for any other element as defined in RCW 90.58.100 deemed appropriate or necessary (RCW 90.58.020).

Intent of Shoreline Management Act

The state legislature finds that the shorelines of the state are among the most valuable and fragile of its natural resources and that there is great concern throughout the state relating to their utilization, protection, restoration, and preservation. In addition, the legislature finds that ever increasing pressures of additional uses are being placed on the shorelines necessitating increased coordination in the management and development of the shorelines of the state. The legislature further finds that much of the shorelines of the state and the adjacent uplands are in private ownership; that unrestricted construction on the privately owned or publicly owned shorelines of the state is not in the best public interest; and therefore, coordinated planning is necessary in order to protect the public interest associated with the shorelines of the state while, at the same time, recognizing and protecting private property rights consistent with the public interest.

In the implementation of this policy the public's opportunity to enjoy the physical and aesthetic qualities of natural shorelines of the state shall be preserved to the greatest extent feasible consistent with the overall best interest of the state and the people generally. To this end uses shall be preferred which are consistent with control of pollution and prevention of damage to the natural environment, or are unique to or dependent upon use of the state's shoreline. Alterations of the natural condition of the shorelines of the state, in those limited instances when authorized, shall be given priority for single family residences and their accessory structures, ports, shoreline recreational uses including but not limited to parks, marinas, piers, and other improvements facilitating public access to shorelines of the state, industrial and commercial developments which are particularly dependent on their location on or use of the shorelines of the state and other development that will provide an opportunity for substantial numbers of the people to enjoy the shorelines of the state [RCW 90.58.020].

Permitted uses in the shorelines of the state shall be designed and conducted in a manner to minimize, insofar as practical, any resultant damage to the ecology and environment of the shoreline area and any interference with the public's use of the water [RCW 98.58.020].

Snohomish County entered into a process of updating the Snohomish County Shoreline Management Master Program in 2004. This update process has been conducted with oversight and review by the Department of Ecology. All aspects of the proposed SMP have been reviewed and evaluated by Department of Ecology staff working under the guidance of the new SMA Guidelines.

The SMA Guidelines

The guidelines for implementation of the SMA are found in chapters 173-18, -20, -22, -26 and -27 WAC. The Washington State Department of Ecology (DOE) establishes these implementing guidelines of the Shoreline Management Act in the Washington Administrative Code (WAC 173-26). These guidelines provide the basis for local governments to review and update their local shoreline master programs.

In 2003, the state updated the shoreline guidelines in WAC 173-26 and required that all local jurisdictions update their shoreline management programs consistent with the new guidelines. Snohomish County entered into a process of updating the Snohomish County Shoreline Management Master Program in 2004. This update process has been conducted with oversight and review by the Department of Ecology. All aspects of the proposed SMP have been reviewed and evaluated by Department of Ecology staff working under the guidance of the new SMA Guidelines.

The generalized impacts of jurisdictions not updating their SMPs are summarized in the Washington State Department of Ecology's Proposed Shoreline Master Program Guidelines Rule Amendment Supplemental Final Environmental Impact Statement⁴ (Dec. 2003):

The original shoreline master program guidelines rule no longer provides an adequate level of environmental protection to meet the intent of the SMA. Existing conditions and trends in shoreline jurisdiction are not acceptable for sensitive species recovery or for protection of the natural ecological functions of the shorelines of the state. Sections of the guidelines addressing natural systems and use activities have not proven to be adequate in protecting shoreline ecological functions. With continued implementation of the No Action alternative, it is fair to expect current trends in shoreline management to continue. These trends would include a net increase in shoreline armoring, an increase in development within shoreline jurisdiction, continued degradation of water quality, and a continued net loss of shoreline habitat.

Much has been learned about the physical and biological character of Washington's shorelines since 1972. Since adoption and initial implementation of the Shoreline Management Act, studies have been conducted for example, on the ecological importance of near shore areas, shoreline morphology, and the needs of wild salmonids. These studies have indicated that the cumulative impacts of shoreline modifications are adversely impacting the productive capacity of the state's waters (see Chapter 5, Habitat-scale Existing Conditions & Impacts Under WAC 173-16). The 1972 Guidelines are based on science dating from the 1960s that emphasized the adverse impacts of dumping, dredging, filling, channelizing, etc. These were the result of large-scale projects with far-reaching and visible impacts. To varying degrees, the SMA has been a success in controlling or moderating most of these impacts while allowing important economic development to continue.

The issue now is that we continue to lose shoreline resources as a result of the cumulative impact of many small scale and dispersed projects on the shoreline. As more and more shoreline is developed, the native vegetation is removed and the physical character of the shoreline is changed. The fish and wildlife dependent on those physical and biological characteristics are eliminated. The policy of the SMA is to "protect against adverse effects to... the land and its vegetation and wildlife," and on shorelines of statewide significance (SSWS) to "preserve the natural character" and "protect the resources and ecology" of the shoreline. These policies are not adequately addressed by the current guidelines and thereby are not adequately addressed by most of the SMPs in effect today.

The 1972 Guidelines were oriented toward management of shoreline uses typical of the time. Resource based industries dominated the industrial waterfront, and international trade was limited and tied to the resource industries. Vacation homes were scattered along the shoreline.

The way we use shorelines has changed dramatically. International trade, recreation, and multiple use developments now dominate the urban waterfront. Residential uses have proliferated and changed in character. Most shoreline residences are now full time residences. Redevelopment of residential sites is common with large homes replacing cabins. Instead of houses scattered along the shoreline, there is continuous residential development along many if not most of our lakes and marine waters with only scattered undeveloped land. The cumulative impact of continuous residential development on the shoreline was not adequately addressed by the guidelines. Issues, such as brownfields redevelopment, sediment contamination cleanup, habitat restoration, mitigation banking and dredged material management, have emerged and require a flexible approach. While the intent behind such activities is clearly consistent with the overall intent of the SMA, the guidelines, and the existing master programs, have

often been an impediment to such projects because the guidelines do not address them.

The purpose of providing the above explanation is to provide a framework for analyzing how the existing SMMP is deficient and how the proposed SMP will meet the intent of the Shoreline Management Act, RCW 90.58. Throughout this document, elements of the existing SMMP are compared to the proposed SMP, which has been prepared based on the new SMA Guidelines. These comparisons will provide one level of determining how the Existing Program compares to requirements found in the new SMA Guidelines.

Shoreline Jurisdiction

The SMA applies to the shorelines of the state as defined in chapter 90.58.030 RCW [RCW 90.58.040]. "Shorelines of the state" are the total of all "shorelines" and "shorelines of statewide significance" within the state [RCW 90.58.030(2)(c)].

- "Shorelines" means all of the water areas of the state, including reservoirs and their associated shorelands, together with the lands underlying them; except (i) shorelines of statewide significance; (ii) shorelines on segments of streams upstream of a point where the mean annual flow is 20 cubic feet per second or less, and the wetlands associated with such upstream segments; and (iii) shorelines on lakes less than 20 acres in size and wetlands associated with such small lakes.
- "Shorelines of statewide significance" means the following shorelines of the state: (i) Those areas of Puget Sound and the Strait of Juan de Fuca and adjacent salt waters north to the Canadian line and lying seaward from the line of extreme low tide; (ii) Those lakes, whether natural, artificial, or a combination thereof, with a surface acreage of one thousand acres or more measured at the ordinary high water mark; (iii) Those natural rivers or segments downstream of a point where the mean annual flow is measured at one thousand cubic feet per second or more, and (iv) Those shorelands associated with (i), (ii), (iv), and (v) of this subsection (2)(e);
- "Shorelands" or "shoreland areas" means those lands extending landward for two hundred feet in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous floodplain areas landward two hundred feet from such floodways; and all wetlands and river deltas associated with the streams, lakes, and tidal waters which are subject to the provisions of this chapter; the same to be designated as to location by the department of ecology.

- Any county or city may determine that portion of a one-hundred-year-flood plain to be included in its master program as long as such portion includes, as a minimum, the floodway and the adjacent land extending landward two hundred feet therefrom [RCW 90.58.030].

At the time of adopting the original SMMP, the County elected to include the 100-year floodplain within their shoreline jurisdiction. Therefore, Alternatives 1 and 2 include the entire 100-year floodplain. Alternative 3 reduces the jurisdiction in the floodplain to include only the floodway plus 200 feet upland.

The existing SMMP applies to Puget Sound shorelines and estuaries, 53 streams [WAC 173-18-350] and 43 lakes [WAC 173-20-640 and -650. *Note: Ballinger, Blackmans, Silver and Chaplain are on the list but are not in unincorporated county and not included in this total count*] together with their 100-year floodplains and associated wetlands.

The proposed SMP applies to Puget Sound shorelines and estuaries, 177 streams and tributaries [WAC 173-18-044] and 52 lakes [WAC 173-20-044] together with their 100-year floodplains and the associated wetlands. The reduced jurisdiction alternative includes all the same marine, river and lake shorelines but excludes portions of the 100-year floodplain which extend landward beyond a point 200 feet from the floodway. These alternative proposals will be explained in more detail in Chapter 2 of this SEIS.

Relationship to Other Plans and Regulations

The Growth Management Act (GMA) [RCW 36.70A] and the SMA overlap in three key areas:

- Required consistency between shoreline environment designations and the local comprehensive plan;
- Integration of the shoreline program provisions into the other plans and regulations; and
- Protection of critical areas

Consistency with the Comprehensive Plan

The proposed SMP is an element of the County comprehensive plan adopted pursuant to the Growth Management Act, although it is a separate document. The comprehensive plan designations and corresponding zoning and development patterns in the unincorporated County shoreline areas, along with the shoreline ecological conditions identified in the shoreline inventory, form the primary basis for assigning shoreline environment designations.

WAC 173-26-211(3) says:

(3) Consistency between shoreline environment designations and the local comprehensive plan. As noted in WAC 173-26-191 (1)(e), RCW 90.58.340 requires that policies for lands adjacent to the shorelines be consistent with the Shoreline Management Act, implementing rules, and the applicable master program. Conversely, local comprehensive plans constitute the underlying framework within which master program provisions should fit. The Growth Management Act, where applicable, designates shoreline master program policies as an element of the comprehensive plan and requires that all elements be internally consistent. Chapter 36.70A RCW also requires development regulations to be consistent with the comprehensive plan.

The consistency required in WAC 173-26-211(3) can be determined based on the following criteria:

- The comprehensive plan provisions and shoreline environment designation provisions should not rule out one another. The provisions of both the comprehensive plan and the master program must be able to be met. Further, when considered together and applied to any one piece of property, the master program use policies and regulations and the local zoning or other use regulations should not conflict in a manner that all viable uses of the property are precluded.
- Land use policies and regulations should protect preferred shoreline uses from being impacted by incompatible uses. The intent is to prevent water-oriented uses, especially water-dependent uses, from being restricted on shoreline areas because of impacts to nearby nonwater-oriented uses. To be consistent, master programs, comprehensive plans, and development regulations should prevent new uses that are not compatible with preferred uses from locating where they may restrict preferred uses or development.
- Infrastructure and services provided in the comprehensive plan should be sufficient to support allowed shoreline uses. Shoreline uses should not be allowed where the comprehensive plan does not provide sufficient roads, utilities, and other services to support them. Infrastructure plans must also be mutually consistent with shoreline designations. Where they do exist, utility services routed through shoreline areas shall not be a sole justification for more intense development.

Integration into Local Policy and Regulation

Local governments may integrate master program policies and regulations into their comprehensive plan policies and implementing development regulations rather than preparing a stand-alone master program in a single document. Master program provisions that are integrated into such plans and development regulations shall be clearly identified so that the

department can review these provisions for approval and evaluate development proposals for compliance. RCW 90.58.120 requires that all adopted regulations, designations, and master programs be available for public inspection at the department or the applicable county or city. Local governments shall identify all documents which contain master program provisions and which provisions constitute part of the master program. Clear identification of master program provisions is also necessary so that interested persons and entities may be involved in master program preparation and amendment, as called for in RCW 90.58.130. [WAC 173-26-191(2)(c)].

WAC 173-26-186(7) says:

The planning policies and regulatory provisions of master programs and the comprehensive plans and development regulations, adopted under RCW 36.70A.040 shall be integrated and coordinated in accordance with RCW 90.58.340, 36.70A.480, 34.05.328 (1)(h), and section 1, chapter 347, Laws of 1995.

This concept of integrating shoreline provisions into existing plans and regulations is new and has resulted in extended timelines for developing the County's SMP update.

Critical Area Protection

The GMA establishes the relationship between the SMA and the protection of critical areas [RCW 36.70A.480]. Under the GMA, critical areas include: wetlands, fish and wildlife habitat conservation areas, frequently flooded areas, geologically hazardous areas and critical aquifer recharge areas. Shorelines are not considered critical areas *except* that those areas within shorelines which meet the definition of a critical area may be considered as critical areas. Streams, lakes, wetlands and marine waters are included in the County's definition of "critical areas" areas [SCC 30.91C.340]. Therefore, these aquatic portions of the shoreline jurisdiction are considered to be critical areas. This is consistent with the GMA guidelines for designating critical areas [WAC 365-190-080(1) and (5)]. Within shoreline jurisdiction, critical area protection is achieved solely through implementation of the SMP provisions provided that the critical area protection within shorelines is at least equivalent to the level of critical area protection outside of shorelines.

The GMA standard for critical area protection is "no net loss" of critical area functions and values. These functions and values are to be identified and protected utilizing the recommendations from the best available science [RCW 36.70A.172]. In SCC 30.62A.220 SCC, the County has adopted critical area functions and values based on scientific review¹, which include:

¹ Snohomish County, *Revised Draft Summary of Best Available Science for Critical Areas*, March 2006.

- (1) **Streams.** Fish and wildlife habitat; transport of water, sediment and organic material; floodwater storage and attenuation;
- (2) **Wetlands.** Fish and wildlife habitat, pollution assimilation, sediment retention, shoreline stabilization, floodwater storage, attenuation and conveyance, wave energy attenuation, stream base-flow maintenance, and groundwater discharge/recharge;
- (3) **Lakes.** Fish and wildlife habitat, sediment retention, pollution assimilation, and floodwater attenuation, storage and conveyance;
- (4) **Marine waters.** Fish and wildlife habitat; wind, wave and current attenuation; sediment supply; longshore transport of sediment; and pollution assimilation;
- (5) **Primary association areas of critical species.** Fish and wildlife habitat; and
- (6) **Buffers.** Habitat for water associated and riparian associated wildlife, wildlife movement corridors, noise and visual screening, large woody debris and other natural organic matter recruitment, floodwater attenuation and storage, temperature maintenance, pollution assimilation, streambank stabilization and supply of sediments and nutrients.

Buffers are not adopted as critical areas but perform vital functions in support of stream, lake, wetland and marine functions and values.

These critical area functions and values are mirrored by the shoreline ecological functions described in WAC 173-26-201(3)(d)(i)(c) as shown in Table 1. WAC 173-26-186(8)(b) establishes a comparable “no net loss” standard for shoreline ecological functions. Since the County’s adopted critical area regulations comply with the GMA standard for “no net loss” of critical area functions and values (*Pilchuck VII v. Snohomish County, Final Decision and Order, CPSGMHB, #07-3-0033, April 1, 2008*) and critical area functions and values are equivalent to shoreline ecological functions (Table 1), then the County’s adopted critical area regulations should also satisfy the “no net loss” criteria under the SMA.

The current SMMP does not contain policies or regulations specifically for the protection of critical area functions and values or for shoreline ecological functions. Adoption of the proposed SMP which incorporates the critical area regulations will improve the level of protection achieved for shoreline ecological functions. Adoption of the County’s critical area regulations as part of the proposed SMP will ensure that the “no net loss” standard has been met and that the critical area protection within shorelines is at least equivalent to the protection outside of shorelines.

Multifaceted Approach to Achieve “No Net Loss”

WAC 173-26-186(9) recognizes that the primary goals of the SMA to promote water-dependent uses and to maintain navigational and public access all while protecting shoreline ecology will

require a unique policy and regulatory balance. WAC 173-26-186(3), (4) and (8)(c) support using a multifaceted approach to achieve the SMA goals including: policy and regulation, park and watershed planning, restoration and enhancement programs, land acquisition and easements, and other incentive programs.

The County has adopted and implemented just such a multifaceted approach. In addition to adopting regulations under the GMA and the SMA, the County has implemented several non-regulatory programs including: public education and assistance programs, transfer and purchase of development rights, open space tax incentives, capital restoration and enhancement projects, park planning and land acquisition, and monitoring and adaptive management programs. These non-regulatory programs supplement and offset the limitations inherent in regulatory programs. When the regulatory and non-regulatory programs are combined, the outcome is expected to result in no net loss of shoreline ecological functions.

Table 1: Comparison of Ecological Functions Under GMA and SMA		
Critical Areas / Shorelines & Buffers	GMA Critical Area Functions & Values [SCC 30.62A.220]	SMA Shoreline Ecological Functions [WAC 173-26-201(3)(d)(i)(C)]
Streams	Fish and wildlife habitat; transport of water, sediment and organic material; floodwater storage and attenuation.	<p>Hydrologic: Transport of water and sediment across the natural range of flow variability; attenuating flow energy; developing pools, riffles, gravel bars, recruitment and transport of large woody debris and other organic material.</p> <p>Habitat for native aquatic and shoreline-dependent birds, invertebrates, mammals; amphibians; and anadromous and resident native fish.</p>
Wetlands	Fish and wildlife habitat, pollution assimilation, sediment retention, shoreline stabilization, floodwater storage, attenuation and conveyance, wave energy attenuation, stream base-flow maintenance, and groundwater discharge/recharge.	<p>Hydrologic: Storing water and sediment, attenuating wave energy, removing excessive nutrients and toxic compounds, recruiting woody debris and other organic material.</p> <p>Habitat for aquatic and shoreline-dependent birds, invertebrates, mammals; amphibians; and anadromous and resident native fish.</p>

Lakes	Fish and wildlife habitat, sediment retention, pollution assimilation, and floodwater attenuation, storage and conveyance.	<p>Hydrologic: Storing water and sediment, attenuating wave energy, removing excessive nutrients and toxic compounds, recruitment of large woody debris and other organic material.</p> <p>Habitat for aquatic and shoreline-dependent birds, invertebrates, mammals; amphibians; and anadromous and resident native fish:</p>
Marine waters	Fish and wildlife habitat; wind, wave and current attenuation; sediment supply; longshore transport of sediment; and pollution assimilation.	<p>Hydrologic: Transporting and stabilizing sediment, attenuating wave and tidal energy, removing excessive nutrients and toxic compounds; recruitment, redistribution and reduction of woody debris and other organic material.</p> <p>Habitat for aquatic and shoreline-dependent birds, invertebrates, mammals; amphibians; and anadromous and resident native fish.</p>
Primary association areas of critical species	Fish and wildlife habitat.	Habitat functions may include, but are not limited to, space or conditions for reproduction, resting, hiding and migration; and food production and delivery.
Buffers (NOTE: buffers are NOT designated as critical areas)	Buffers. Habitat for water associated and riparian associated wildlife, wildlife movement corridors, noise and visual screening, large woody debris and other natural organic matter recruitment, floodwater attenuation and storage, temperature maintenance, pollution assimilation, streambank stabilization and supply of sediments and nutrients.	<p>Shoreline vegetation: Maintaining temperature; removing excessive nutrients and toxic compound, sediment removal and stabilization; attenuation of flow, wave or flood energy; and provision of large woody debris and other organic matter.</p> <p>Hyporheic functions: Removing excessive nutrients and toxic compounds, water storage, support of vegetation, sediment storage, maintenance of base flows and support of vegetation.</p>

Section 4.5 of this SEIS describes specific regulatory and non-regulatory programs proposed to offset potential development-related impacts for each shoreline ecological function.

1.3 Background on the County's SMP Update Process 2004-2009

Initial Development of the SMP Updates: 2004 - 2006

Starting in January 2004, Snohomish County began the process of amending its existing SMMP. The County process involved the following steps:

- Prepare an inventory and analysis of existing shoreline ecological conditions, resources and land uses.
- Prepare an updated SMP to comply with the 2003 guidelines.
- Prepare environmental analysis under SEPA
- Prepare a Cumulative Impact Analysis (CIA)
- Prepare a restoration plan.

Shoreline Inventory

To prepare the inventory of shorelines within the County's shoreline jurisdiction, the County relied on existing data drawn from multiple sources. The initial scope of the County's inventory included lands in shoreline jurisdiction under the original Snohomish County Shoreline Management Program in 1974 (the existing SMMP). The rivers, lakes, and streams included within this jurisdiction are detailed in WAC 173-18-350 for streams, WAC 173-20-640 for lakes, WAC 173-20-650 for Snohomish County lakes of statewide significance, RCW 90.58.030 for marine shorelines and WAC 173-22-040 for shorelands and associated wetlands. This jurisdictional boundary formed the baseline of the analysis in preparation of an update to the existing SMMP. The inventory and analysis is a separate document, entitled *Summary of Shoreline Ecological Functions and Conditions in Snohomish County*.

The shoreline inventory contains the physical descriptions and analysis of the existing ecological conditions and functions of the County's shorelines. The shoreline inventory provided the basis for the County to develop all other aspects of its SMP update.

The SMP – 2006 Draft Proposal

The SMP is made up of three components: 1) shoreline environment designations and management criteria, 2) policies and regulations to ensure that allowed shoreline uses and modifications are consistent with the shoreline environment designations and the intent of the SMA, and 3) maps showing the extent of shoreline jurisdiction and the assigned environment designation. To prepare the updated SMP, the County took the following steps:

- Determine new shoreline environmental designations based on their physical, biological, and development characteristics.
- Review and revise existing SMMP goals and policies for consistency with updated WAC 173-26.
- Integrate shoreline regulations into the County code.
- Produce shoreline maps

The County developed a public involvement program to seek input from stakeholders and county residents on key issues and policy development.

Public Involvement

The new DOE Proposed Program Guidelines require early and continuous public involvement in the local SMP Amendment Process. The Guidelines recommend local governments work with either the planning commission or a citizen advisory committee that represents a broad cross section of interests to provide a forum to discuss shoreline management issues, set goals, help write policies and regulations, and promote communication with the general public. The Guidelines suggest that some jurisdictions may also use a technical advisory committee to provide peer review and assist with inventory and analysis steps. Snohomish County used both a Citizen Advisory Committee and a Technical Advisory Committee. The County established a Shoreline Advisory Committee (SAC) to assist in the SMP update. This committee met 20 times from September 2004 through February 2006. Members of the SAC represented the following interest groups and agencies:

- Snohomish County PUD
- River Rafting Company
- Tulalip Tribes
- Economic Development Council of Snohomish County
- US Army Corp of Engineers
- Department of Natural Resources (DNR)
- People for Puget Sound
- Sauk-Suiattle Tribe
- Stillaguamish Tribe
- Snohomish County Agricultural Advisory Board
- Pilchuck Audubon Society
- Coordinated Diking Council of Snohomish County
- Muckleshoot Tribe
- Federal Emergency Management Agency (FEMA)
- Washington State Department of Fish and Wildlife (WSDFW)
- Master Builders Association of King and Snohomish County
- Snohomish Conservation District
- Snohomish County Parks Advisory Board
- Burlington Northern/Santa Fe (BNSF) Railroad
- Lake Shoreline Residents
- Marine Shoreline Residents
- Snohomish County Developers

Over the course of a year and a half of working together, the SAC identified areas of issues and concerns and hosted two public open houses. The Shoreline Advisory Committee reached

consensus on a document entitled *Shoreline Policies and Environment Designations* dated March, 2006. This document provides the policy basis for the shoreline environment designations and shoreline regulations.

The County also created a Technical Advisory team. This was an interdepartmental group consisting of members of the Department of Public Works Surface Water Division (lakes specialist and river habitat specialist), Public Involvement and Environment (PIE) Division, Parks Department, and PDS current planners (shoreline permit specialists). The purpose of this Technical Advisory Committee was to give technical advice, assist with the Shoreline Inventory and Characterization. This group met monthly between June 2004 and October 2004 to help PDS staff create a methodology for data collection and analysis for the inventory. The committee focused on determining sources of data collected previously by the County that would be useful for the SMP update. The group held a final meeting in April 2005 to provide comments on the draft inventory report. Members of this group continue to be involved in the SMP process by providing internal review and comments on draft regulations and environment designations.

One additional public involvement feature by the County consisted of a survey of shoreline property owners to gather public opinion regarding Snohomish County's SMP update. The survey was administered via mail in March and April of 2005, sending 4,000 surveys to registered property owners in Snohomish County whose parcels were categorized as marine, lake, or river. A total of 334 surveys were returned to the County.

Additional public input opportunities occurred on the proposed SMP (2006 draft) during the comment period on the Draft EIS and the public hearings before the Snohomish County Planning Commission in June and July, 2006.

The SEPA Documents

The State Environmental Policy Act (SEPA) establishes certain public involvement requirements related to a County's adoption of new plans, policies, or regulations. In accordance with SEPA, Snohomish County Planning and Development Services issued a Determination of Significance (DS) and request for comments on the scope of the EIS for the update of the Snohomish County Shoreline Management Master Program (Existing Program). The Scoping Notice was issued on July 13, 2005 and provided 21 days for public comment. No comments were received.

The County issued a Draft Environmental Impact Statement (DEIS) in May, 2006, and a Final Environmental Impact Statement (FEIS) in June, 2006.

The Cumulative Impact Analysis (CIA)

The County has prepared a Cumulative Impact Analysis of the proposed SMP included as Appendix C in this SEIS. This is not a required element of a programmatic EIS. The Department of Ecology requires a Cumulative Impact Analysis when preparing a revised SMP [WAC 173-26-201(3)(d)(iii)].

Local master programs shall evaluate and consider cumulative impacts of reasonably foreseeable future development on shoreline ecological functions and other shoreline functions fostered by the policy goals of the act. To ensure no net loss of ecological functions and protection of other shoreline functions and/or uses, master programs shall contain policies, programs, and regulations that address adverse cumulative impacts and fairly allocate the burden of addressing cumulative impacts among development opportunities. Evaluation of such cumulative impacts should consider:

- (i.) Current circumstances affecting the shorelines and relevant natural processes*
- (ii.) Reasonably foreseeable future development and use of the shoreline*
- (iii.) Beneficial effects of any established regulatory programs under other local, state, and federal laws.*

It is recognized that methods of determining reasonably foreseeable future development may vary according to local circumstances, including demographic and economic characteristics and the nature and extent of local shorelines.

The Snohomish County Cumulative Impact Analysis has been prepared in compliance with the DOE Guidelines.

The Restoration Element

WAC 173-26-201(2)(f) requires that the County prepare a Restoration Element. While the proposed SMP contains the required restoration policies, the other components are found in a separate document entitled, *The Restoration Element*. The components in *The Restoration Element* are based on the restoration needs identified in the shoreline inventory and include:

- Identification of degraded areas, impaired ecological functions, and sites with potential for ecological restoration as determined during the shoreline inventory process;
- Overall goals and priorities for restoration of degraded areas and impaired ecological functions;
- Existing and ongoing projects and programs that are currently being implemented, or are reasonably assured of being implemented (based on an evaluation of funding likely in the foreseeable future), which are designed to contribute to local restoration goals;

- Additional projects and programs needed to achieve local restoration goals, and implementation strategies including identifying prospective funding sources for those projects and programs;
- Timelines and benchmarks for implementing restoration projects and programs and achieving local restoration goals; and
- Mechanisms or strategies to ensure that restoration projects and programs will be implemented according to plans and to appropriately review the effectiveness of the projects and programs in meeting the overall restoration goals.

Only the restoration policies in the SMP are officially adopted as part of the SMP. The *Restoration Element* itself is not officially adopted and is a supporting document only. Adoption of the capital projects identified in the *Restoration Element* is subject to separate budget allowances and procedures required at the local level.

Substantive Revisions: 2007 - 2009

Updates to the Shoreline Inventory

Updates to chapter 173-18 WAC effective in 2007 require that shoreline jurisdiction for streams be determined based on the location at which the stream reaches a flow rate of 20 cubic feet per second (cfs). Application of the 20 cfs data has resulted in an expanded area subject to the Shoreline Management Act requirements: shoreline jurisdiction now extends further upstream on many streams and also brings new streams under shoreline jurisdiction for the first time. This added jurisdictional area was not covered in the original DEIS issued in 2006.

Updates to the SMP: 2009 Draft Proposal

Since 2006, the County has revised the proposed SMP to incorporate comments submitted by the Washington State Department of Ecology (DOE). DOE is responsible for administering the state's updated shoreline requirements contained in chapters 172-18, 173-20, 173-22, 173-26 and 173-27 WAC. DOE also has final approval authority over local SMP's.

DOE's comments have resulted in fundamental changes to the County's 2006 SMP proposal. The document format has changed, reducing the level of regulatory integration into the County's existing land use regulations. Proposed regulatory standards are similar to those proposed in 2006 but have been supplemented to cover a broader range of land uses missing from the 2006 version and, in some cases revised to clarify regulatory standards and improve ecological protection in compliance with the state mandate.

What has changed in the proposed SMP since the 2006 draft?

The most significant changes to the updated SMP are: 1) the expansion of the physical extent of shoreline jurisdiction adding several streams not included in 2006; and 2) reformatting of the proposed SMP document.

The SMP document now looks like a more traditional shoreline plan. The level of regulatory integration has been substantially reduced to facilitate compliance review by DOE. The original policy recommendations made by the SAC remain intact but have been reorganized into the new document structure. The regulatory provisions remain largely intact but have been augmented to ensure compliance with the SMA and the guidelines, improve clarity and internal consistency, and add required elements not included in the 2006 draft SMP. Where elements have been added to the SMP, the source relied upon was either chapter 173-26 WAC or the original SMMP, unless otherwise noted.

Map changes:

- Addition of approximately 70 miles of streams in the unincorporated portion of the County which meet the 20cfs flow requirement in RCW 90.58.030(2)(d).

Policy changes:

- Policies related to conservation and restoration have been re-structured to address each goal separately.
- A management criteria policy related to mining in the Resource environment has been revised.
- Management policies and designation criteria have been added for Rural Conservancy to meet WAC requirements. New policies address concurrency and environmental limitations affecting residential uses in the Rural Conservancy Environment.
- Policy language that referred to, “critical area functions and values” has been changed to reflect “shoreline ecological functions.”
- The general goals and policies related to the shoreline “elements” have been redistributed and combined with the environment management criteria or with the specific use or modification policies.
- Agricultural policy for allowed uses has been refined consistent with the definition of “agricultural activities” in RCW 90.58.065.
- Policy and/or regulatory sections have been added for forestry, mining, institutional uses and vegetation management.
- Policies have been added for residential uses addressing concurrency and water quality requirements in the WAC.
- New policies have been added for commercial or industrial uses requiring compatibility with environment designation.

Regulatory changes:

- The SMA definition of “agricultural activities” has been added; SMMP provisions for manure lagoons and livestock sanctuaries have been reinstated.
- Boating facilities are combined with docks, piers and floats into one section.
- Definitions have been included for “commercial” and “industrial” uses.
- Sections dealing with interrelated shoreline modifications of dredging, dredge spoil disposal, fill, flood protections measures and mining have been revised and inconsistencies reconciled.
- Public access requirements have been revised to improve clarity of standards.
- A new section consolidates the water quality requirements to facilitate compliance review by DOE.
- The shoreline use and modification regulations have been re-formatted into a single table. The status of some uses or modifications (permitted, conditionally permitted or prohibited) have been added to the table or revised based on WAC requirements and comments from DOE.

These policy and regulatory changes fall within the scope of the original DEIS issued in May, 2006. However, the proposed SMP would be applied to a larger area than was previously analyzed.

The SEPA Documents

The purpose of this Supplemental Draft Environmental Impact Statement (SEIS) is to address these regulatory and jurisdictional changes to the proposed SMP since 2006. The SMP goals and policies developed by the Shoreline Advisory Committee (2004-2006) have been reorganized into the new format but remain substantively intact.

The Cumulative Impact Analysis and the Restoration Element have also been updated to include the expanded shoreline jurisdiction and to respond to comments submitted by DOE. The updated Cumulative Impact Analysis is included in the SEIS as Appendix C.

Chapter 2 - Description of Alternative Proposals

This SEIS compares three alternative shoreline programs: 1) the current Shoreline Management Master Program (SMMP); 2) the updated 2009 version of the proposed Shoreline Management Program; and 3) a reduced jurisdiction alternative.

2.1 Description of the Alternatives

Alternative 1: The Existing SMMP

Alternative 1 assumes no changes to the existing document, entitled the *Snohomish County Shoreline Management Master Program* (SMMP) and is currently used as the shoreline program for Snohomish County. The SMMP includes goals, policies, maps, and regulations for the overall management of the County's shorelines.

The SMMP, adopted by Snohomish County in 1974, was reviewed by the Snohomish County Citizens Advisory Committee on Shoreline Management and amended and approved by the Snohomish County Planning Commission and the Snohomish County Board of Commissioners in conformance with RCW 90.58 and WAC 173-166. Snohomish County Commissioners adopted the Existing Program on September 25, 1974, and September 30, 1974. The Washington State Department of Ecology approved the program on December 26, 1974. Snohomish County most recently adopted revisions to the SMMP in June 1993.

Alternative 1 employs five shoreline environment designation classifications: Natural, Conservancy, Rural, Suburban and Urban. These designations include both the shorelines and the adjacent uplands and 100-year floodplains. Maps showing the locations of these designations have been updated to include County jurisdiction to the official County boundary where it extends seaward from the line of extreme low tide out into Puget Sound. Maps have also been updated to reflect jurisdictional changes due to annexations, tribal ownership and federal land exchanges. Figure 1 provides the current acreages included in each shoreline environment under Alternative 1. In Alternative 1 shoreline jurisdiction in Puget Sound is designated Conservancy. This represents a significant area in terms of total acreage (54,300 acres) and has therefore been separated out from the rest of the Conservancy area.

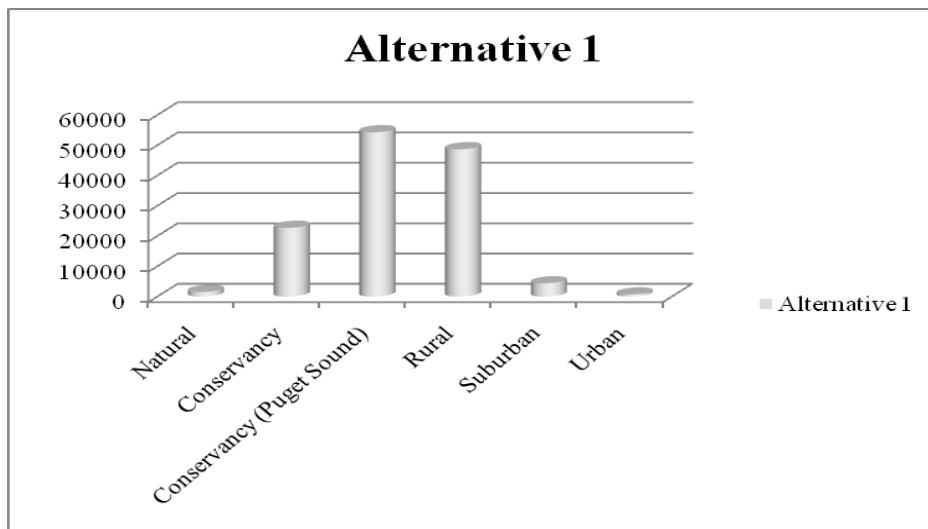


Figure 1. Acreage by Designation for Alternative 1: Current SMMP

Alternative 2: The Proposed SMP

The proposed SMP is a revised Shoreline Management Program for an updated Snohomish County shoreline jurisdiction. The proposed SMP contains goals, policies, and regulations for the management of land within 200 feet of the ordinary high water mark and the associated 100-year floodplain. Shorelines are defined to include lakes, rivers and streams, and marine shorelines. The basis and guidance for preparing the proposed SMP is found in the state Department of Ecology “new guidelines” adopted in December of 2003 and found in WAC 173-26.

The Proposed SMP, in its new format, consists of a document entitled, *Snohomish County Shoreline Management Program: Shoreline Environment Designations, Policies and Regulations* (SMP). Appendix E and F of the SMP contain the shoreline regulations adopted as chapters 30.44 and 30.67 SCC. The proposed SMP also includes a series of 44 maps, indexed by township and range and originally compiled at a scale of 1:24,000. Smaller scale versions of the maps are included as general reference maps within Appendix D of the SMP document. These maps identify shoreline areas within Snohomish County that fall under the jurisdiction of the SMA and graphically depict the specific shoreline environment designation assigned to each section of shoreline.

Alternative 2, the proposed SMP, assigns seven shoreline environment designation classifications: Aquatic, Natural, Resource, Rural Conservancy, Urban Conservancy, Urban and Municipal Watershed Utility (MWU). Figure 2 shows the acreages assigned to each of these designations. Puget Sound is designated as Aquatic, and as with Alternative 1 the data is separated out from the rest of the designation.

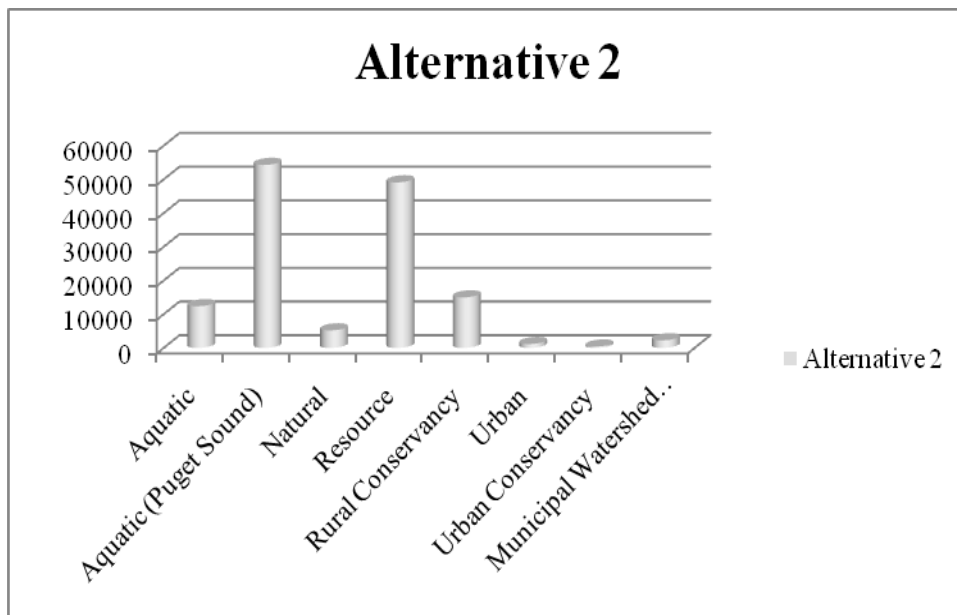


Figure 2. Acreage by Designation for Alternative 2: Proposed SMP

In order to determine the appropriate designation, County staff used several different tools, including GIS, aerial photos, environmental reports, and public works staff monitoring information in combination with the Comprehensive Plan Designation and zoning maps. This allowed for accurate and automated production of designation maps for most of the designations. Additional evaluation of the ecological conditions was necessary to determine if the criteria for Natural and Urban Conservancy were met. The following basic criteria were used to determine new environment designations throughout the County:

Aquatic

- All areas waterward of the OHWM
- Determined using GIS

Resource

- Areas with a resource designation (AG-10, F, F&R, or MC) on the Comprehensive Plan
- Determined using GIS

Urban

- Inside urban growth area (UGA) boundaries
- Determined using GIS

Rural Conservancy

- Outside of urban growth area (UGA) boundaries AND

- Not designated Resource (zoning A-10, F, F&R, or MC)
- Determined using GIS

Urban Conservancy

- Inside urban growth area (UGA) boundaries AND
- Residential comprehensive plan designation
- Environmental constraints preventing more intensive development (floodway, wetlands, steep slopes, etc.)
- Determined using aerial photographs of tree cover and extent of development

Natural

- Contains ecologically intact shorelines, important biological/geological functions, or important representatives of natural features
- Undeveloped or very low density without shoreline modifications, docks, roads, railroads or bridges
- Determined using aerial photographs of tree cover and extent of development

Municipal Watershed Utility

- Associated with public water supply, power generation, and/or flood control reservoirs

In 2007, the state updated WAC 173-18 requiring that the shoreline jurisdiction be determined based on the 20 cubic feet per second (cfs) data. For Snohomish County, this results in an additional 71 miles of streams and 3,900 acres of shorelands now subject to the Shoreline Management Act since the original DEIS was published in May, 2006. The extent of jurisdiction for lake and marine shoreline is not affected. Under the Proposed SMP, the total acreage within the County's shoreline jurisdiction is 139,843 acres, including streams, lakes, and marine shorelines and the associated shorelands including 100-year floodplains. Of this total, the County jurisdiction extending out into Puget Sound constitutes 54,300 acres. Other aquatic areas make up 12,383 acres and the remaining 73,160 acres are shoreland areas. This total also reflects shorelines recently removed from County jurisdiction due to city annexations, changes in tribal ownership or federal land exchanges.

The goals and policies in the newly formatted SMP remain substantively the same as those in the 2006 version developed by the Shoreline Advisory Committee although the policy sections in the 2006 version have been reformatted into the new document. For example the 2006 Resource Element policies have been redistributed into the new version of the Land Use Element and the specific resource-related use elements for Agriculture, Forestry and Mining. The Water Supply Reservoir policies were relocated into the Municipal Watershed Utility designation management policies. Policies from the 2006 Economic Element were redistributed into the new versions of the Land Use Element, Public Access Element and specific use and modification elements related to restoration, recreation, commercial and industrial uses.

Alternative 3: Reduced Jurisdiction SMP

The primary difference between the Proposed SMP and the Reduced Jurisdiction alternative is the method for determining the shoreline jurisdiction. The structure of the Proposed SMP and Reduced Jurisdiction Program are identical. In addition, all of the goals and policies remain the same. The development regulations are also the same as the Proposed SMP. The Reduced Jurisdiction Program has also been prepared consistent with the shoreline master program guidelines found in WAC 173-26.

The Reduced Jurisdiction Program is distinguished from the Proposed SMP with respect to the location of the shoreline jurisdiction in the floodplain. At the time of adopting the SMMP in 1974, all the 100-year floodplains in Snohomish County were included in the County's shoreline jurisdiction; however, it was only required that the floodway plus 200 feet of the adjacent land extending from the floodway be included. In this alternative, therefore, the shoreline jurisdiction is reduced.

The Reduced Jurisdiction Program reevaluates the shoreline jurisdiction line to exclude portions of the 100-year floodplain that are currently included in the County's shoreline jurisdiction. The methodology used to determine the jurisdiction for the Reduced Jurisdiction Program is as follows:

- The shoreline jurisdiction was determined based on the 200 foot setback from the ordinary high water mark for banks of all rivers and streams with 20 cubic feet per second (cfs) points, including the streams added to shoreline jurisdiction during the 2007-2009 planning period.
- All mapped Federal Emergency Management Agency (FEMA) floodways were added to the shoreline jurisdiction with an additional 200 foot setback included as required per RCW 90.58.030(2)(f).
- All mapped severe Channel Migration Zones were also added to the shoreline jurisdiction.
- All known associated wetlands were added to the shoreline jurisdiction.
- All cities and tribal trust lands, SR 2 and SR 532, were removed from the shoreline jurisdiction.

The overall acreage included in the shoreline jurisdiction is 139,872 acres in the proposed SMP which is reduced to 120,413 acres in the Reduced Jurisdiction Program. The floodplains associated with rivers and streams within Snohomish County are affected by this change in jurisdiction. The marine and lake shoreline jurisdictions are unmodified.

Alternative 3 employs the same shoreline environment designation classifications as Alternative 2. The Resource and Rural Conservancy designations are impacted the most by the reduced jurisdiction alternative because of their locations relative to the 100-year floodplain. Figure 3 shows the acreages assigned to each shoreline environment under Alternative 3. Figure 4 compares the acreages by designation for Alternatives 2 and 3. Acreage data for all three alternatives is shown in Table 2B.

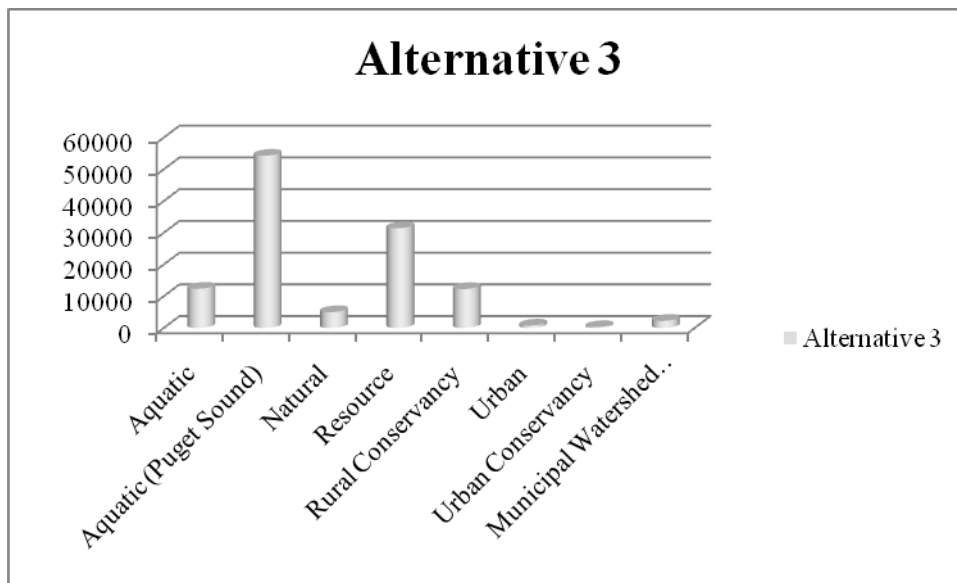


Figure 3. Acreage by Designation for Alternative 3

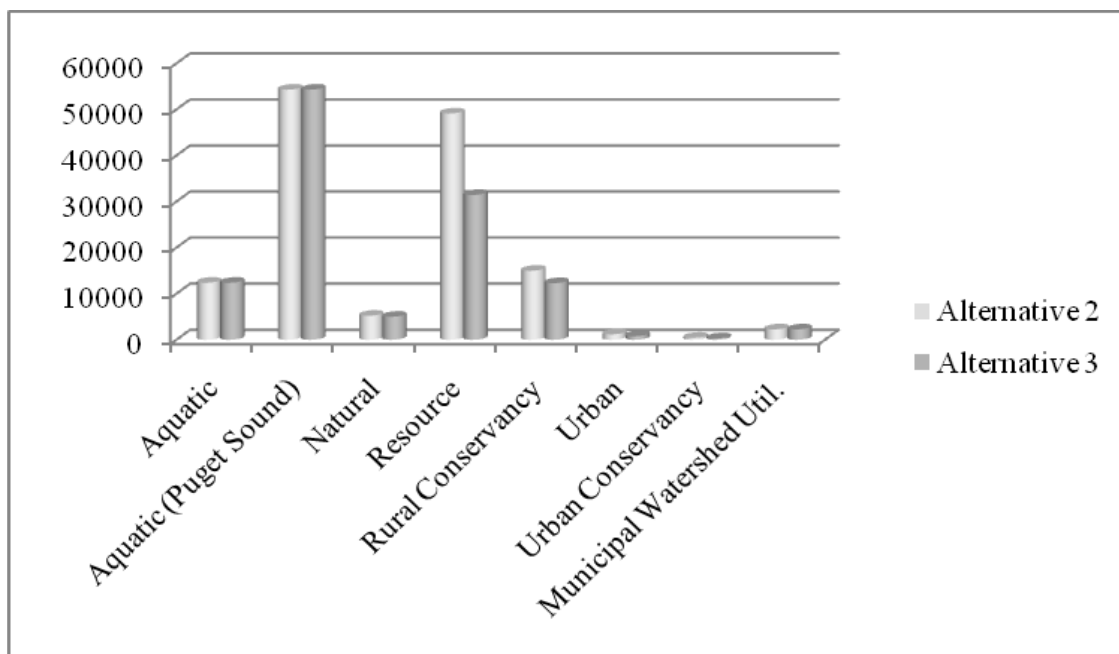


Figure 4. Comparison of Acreage by Designation for Alternatives 2 and 3

2.2 Comparison of the Alternatives - Overview

Alternative 1 provides the lowest level of protection for shoreline ecological functions because the development standards have not been updated in compliance with WAC 173-26. In addition, because of a recent decision by the state Supreme Court in the “Anacortes decision”², the County’s critical area regulations may not apply within shoreline jurisdiction because they have not been adopted as part of the SMMP. The current SMMP does not contain comprehensive measures to protect shoreline ecological functions. Instead, standards are dispersed within the use and modification policies and regulations. The SMMP does not contain a “no net loss” standard for ecological functions.

Tables 2A and 2B summarize the key differences between the three alternatives. With respect to development standards and protection of shoreline ecological functions, Alternatives 2 and 3 include the same standards.

Alternative 2 includes the most acreage in the County’s shoreline jurisdiction. The general development standards in the SMP would then be applied over the greatest area under Alternative 2. It should be noted that while the general development standards are not applied as extensively under Alternative 3, the critical area regulations apply to the same area as under Alternative 2 since the critical area regulations apply both outside and inside the County’s shoreline jurisdiction.

Table 2A: Overview Comparison of Proposed Alternatives			
SMP elements	Alternative 1	Alternative 2	Alternative 3
Shoreline environment designations	5 classifications	7 classifications	
Development standards – in general	SMMP contains general and environment-specific standards for several types of uses and modifications.	Incorporates many of the provisions from the SMMP (Alternative 1) and includes additional development standards to meet compliance with WAC 173-26 and the “no net loss” standard for ecological functions.	
Development standards - protection for shoreline ecological functions	Subject to standards within current SMMP – critical area regulations may not apply. <i>(Anacortes decision)</i>	Subject to critical area regulations included in SMP – SMP adopts existing 30.62A, B, C	Subject to critical area regulations included in SMP – SMP adopts existing 30.62A, B, C. <i>(These regulations also apply to areas excluded from shoreline jurisdiction under this alternative.)</i>

² *Futurewise, et. al., v. WWGMHB, et. al., Supreme Court of Washington, No. 80396-0, July, 2008.*

Table 2B: Comparison of Proposed Alternatives - Acreages				
Alternative 1		Alternatives 2 and 3	Alt. 2	Alt. 3
Environment Designation	Acres	Environment Designation	Acres	Acres
Natural	1,519	Aquatic (non-Puget Sound)	12,484	12,484
Conservancy (non-Puget Sound)	22,711	Aquatic (Puget Sound)	54,300	54,300
Conservancy (Puget Sound)	54,300	Natural	5,203	4,608
Rural	48,676	Resource	49,133	33,005
Suburban	4,377	Rural Conservancy	14,873	12,604
Urban	697	Urban	1,190	786
		Urban Conservancy	436	374
		Municipal Watershed Utility	2,252	2,252
Total	132,280	Total	139,872	120,413
Subtotal (not including Puget Sound)	77,973	Subtotal (not including Puget Sound)	85,572	66,113
Subtotal (not including Aquatic - <i>estimate</i>)	66,176	Subtotal (not including Aquatic)	73,088	53,629

The acreages reported for Alternatives 1 and 2 are based on re-calculation from the updated GIS data. The updated GIS data accounts for changes in shoreline jurisdiction due to annexations, changes in tribal trust status, and federal land boundaries and due to the additions of new streams based on the 20 cfs data. The acreages reported for Alternative 3 are based on the numbers reported in the original DEIS plus the new shoreline areas added based on the 20 cfs data and the resulting addition of new stream segments to the County's shoreline jurisdiction.

Chapter 3 – Existing Shoreline Ecological Conditions

An inventory has been conducted of all shorelines of the state in the unincorporated portion of Snohomish County. The inventory documented the existing shoreline conditions as a baseline for determining compliance with the SMA standard for no net loss of shoreline ecological functions. This inventory document is entitled, *Summary of Shoreline Ecological Functions and Conditions in Snohomish County*, February 17, 2006. The analysis includes an assessment of which ecological functions are present and functioning naturally, impaired or missing altogether. A determination is also made regarding the restoration needs or opportunities for each shoreline of the state. This information was then used to prepare a separate document called *The Restoration Element*.

A summary of the findings in the inventory is presented in this chapter. In addition to the summary presented below, a more detailed summary table showing each shoreline planning segment can be found in Appendix B. Data in Appendix B has been taken from the Snohomish County inventory. Details in Appendix B include:

- For each lake, data includes size, presence of docks, availability of public access, associated wetlands, water quality issues, and important notes (development levels, shoreline vegetation, special uses, etc.).
- Ecological data for each stream includes percent forest cover and impervious surface, water quality based on Clean Water Act 303d list identifying contaminants found, and specific notes related to riparian vegetation condition, sediment loads, shoreline armoring and floodplain connectivity.
- Marine ecological conditions documented in Appendix B include public access, riparian condition, percent developed, shoreline armoring, feeder bluffs, water quality based on CWA 303d list, and shoreline segment-specific notes covering other issues of concern.

3.1 Lakes

Through GIS, Snohomish County's water body coverage map was used to determine which lakes fall within shoreline jurisdiction. All lakes and associated wetlands with open water over 20 acres were included, as well as all lakes listed in the WAC. Then, lakes no longer meeting the state criteria, or those within city limits, tribal, or federal jurisdiction were removed. Additionally, a 200-foot area around each lake was delineated to produce an "analysis area" that was used to assist in determining the environmental conditions for each lake. This analysis was key to assigning a Natural or Urban Conservancy shoreline environment designation to the shorelands.

Existing conditions of lakes subject to shoreline jurisdiction have been taken from the *Summary of Shoreline Ecological Functions and Conditions in Snohomish County*, February 17, 2006. This

document provides substantial information about such environmental indicators as vegetation, water movement, water quality, and wildlife habitat. The amount and type of development around each lake segment is also noted, including public access and number of docks. Data from the report is also shown in map format.

A total of 53 lakes with 2,589 acres of lake shorelands have been determined to fall within shoreline jurisdiction. Of the 47 lakes listed in the WAC, four (Blackman, Silver, Ballinger, Chaplain and parts of Thomas Lake) are within city limits and two no longer exist or have different names (Hanson Slough and Evangeline). These lakes are not included, therefore, as part of the proposed SMP. Eleven new lakes have been added that were not included within the existing SMMP. These lakes have either 20 acres of open water or they meet the requirements of WAC 173-20-040. The 11 new lakes subject to shoreline jurisdiction are:

Table 3: Proposed Changes in Lake Designations

Lakes Added to the Proposed SMP	Lakes Removed from the Proposed SMP
Connor	Blanca
Getchell	Copper
John Sam	Evangeline
Getchell	Hanson Slough
Mud	Sunset
Spring	
Spada	
Swartz	
Twin (north)	
Twin (south)	
Wagner	

Slightly over half of the lakes within shoreline jurisdiction are developed with docks or other over water structures. The top 14 most developed lakes have less than 50 percent of shoreline vegetation intact, and the top four most developed lakes in the County – Goodwin, Stevens, Serene and Bosworth, are more than 70 percent developed and have an average of one dock for every 100 feet of shoreline.

Five lakes have predominately undeveloped shorelines: Kellogg (100 percent), Tomtit (100 percent), Echo (100 percent), Fontal (98 percent), and Dagger (94 percent) which are used primarily for resource production. Several lake shoreline ecological functions have been described within the inventory report. Details for each lake segment include:

- Lake watershed aquatic health and hydrologic regimes – forest cover
- Water quality

- Hydrologic connectivity and sediment processes
- Presence and quality of adjacent wetlands
- Large woody debris (LWD)
- Shoreline vegetation – tree and shrub cover
- Dock density – docks per 1,000 lineal feet

Six major lake shoreline management issues are highlighted in the inventory:

- Armoring (i.e., bulkheads) – impacts 42 percent of lakes
- Water quality – impacts 22 percent of lakes
- Clearing of shoreline vegetation – impacts 48 percent of lakes
- Docks – 31 percent of lakes have high dock densities
- Protection of remaining shoreline vegetation and adjacent wetlands
- Protection of habitat for threatened or endangered species

Twenty lakes were reviewed and found to meet the criteria for Natural designation under the proposed SMP. These lakes have ecologically intact shorelines or shorelines that can be restored easily. A few of the lakes (*) also have unique characteristics that should be protected. Lakes designated as Natural include:

- | | | |
|-----------------|-----------|-----------|
| • Boardman East | • Echo | • Sunset |
| • Boulder | • Hannan | • Swartz |
| • Bryant* | • Kellogg | • Tomtit |
| • Cassidy* | • Little | • Wallace |
| • Chain | • Mud | • Woods |
| • Copper | • Purdy | • Riley |
| • Crystal* | • Riley | |

Lakes with unique characteristics include:

- Bryant Lake is an undeveloped bog lake surrounded by extensive wetlands.
- Lake Cassidy has a large undeveloped forested wetland and bog adjacent to the lake that provides important fish and wildlife functions, as well as filtering and storage of surface water. Intact bogs are rare within the County and have high scenic value and potential for low intensity recreational use.
- Crystal Lake has undeveloped portions containing a large rare sphagnum bog with rare plant communities.

3.2 Rivers and Streams

Through GIS, Snohomish County's water body and water course coverage maps were used to determine which rivers fall within shoreline jurisdiction. All rivers that are listed by DOE as 20 cfs as of March 2009 were included; then rivers within city limits were removed. Additionally, a 200 foot area along each river bank was delineated to produce an "analysis area" that is used to assist in determining the environmental conditions for each river. Using Snohomish County and National Wetland Inventory wetland coverages and 100-year floodplain maps, associated wetlands and floodplains were added to the shoreline jurisdiction area. For the Reduced Jurisdiction Alternative, some areas of the 100-year floodplain would not be subject to shoreline jurisdiction. Instead, the new SMP jurisdiction in floodplains would be determined by using the floodway plus 200 feet, plus any severe channel migration zones.

Many river function indicators were analyzed to determine how much each river has been impacted by development. Detailed data for each indicator can be found in the Snohomish County inventory report. The following indicators have been analyzed:

- Basin Aquatic Health and Hydrologic Regimes: Road density or forest cover
- River Sediment Processes: River armoring
- Water Quality: Listing in CWA 303d
- Flood Storage Functions:
 - Roads, railroads, dikes or levees impacting channel migration
 - Channel connected to floodplain
 - Quality of floodplain functions
- Hydrologic Connectivity: Impacts from surrounding land uses
- Presence/Quality of Adjacent Wetlands: Presence of native vegetation
- River Shoreline Vegetation:
 - Continuous vegetation corridor
 - Riparian conditions
- Large woody debris
- Pool area

Rivers and streams within Snohomish County have been analyzed at several levels - first by river basin; then by watershed; then by sub-basin. Within each sub-basin, conditions are reviewed for each individual stream and creek with a minimum flow of 20 cfs. Many of the rivers which meet the 20 cfs criteria originate in the national forest area. These rivers, where contained within federal lands, are not regulated under the county's shoreline program unless private land use actions are proposed below or within 200 feet of the rivers' ordinary high water mark. The portions of these rivers extending outside the federal lands' boundary are subject to the SMA requirements.

The following basins and major watersheds are included in the analysis:

- Stillaguamish River Basin

- Snohomish River Basin
- Cedar-Sammamish River Basin
- Skagit River Basin



Stillaguamish River Basin

- Mainstem
- North Fork
- South Fork



Snohomish River Basin

- Skykomish
- Snohomish
- Snoqualmie (mouth only)

Figure 5. Maps of Major Watersheds



Cedar-Sammamish River Basin

- North Creek
- Swamp Creek
- Little Bear Creek



Skagit River Basin

- Sauk
- Suiattle

Figure 5 (cont.). Maps of Major Watersheds

Stillaguamish River Basin

The 700 square mile Stillaguamish River Basin is located in northern Snohomish County and contains 2,198 miles of rivers and streams, with 321 miles classified as shorelines of the state.

There are three main regions within the basin: North Fork, South Fork, and Mainstem. Land uses include forestry (76 percent), rural (17 percent), agricultural (5 percent), and urban (2 percent) uses. Predominant habitat types found are agricultural, estuarine, and lowland conifer forest. 2,139 acres of County parklands provide public access to the shorelines.

Ecological functions of the Stillaguamish Basin are summarized as follows:

Total forest cover is 53 percent.

- 15 of the 22 sub-basins have less than 65 percent forest cover.
- Peak flows in the North Fork are increasing in frequency and magnitude due to deforestation, filling wetlands, eliminating floodplain connectivity, and groundwater withdrawals.
- Potential low instream flows have impacted aquatic habitat. Washington Department of Ecology (DOE) has proposed a new rule (WAC 173-505) that would limit ground and surface withdrawals in the basin.
- Largely disconnected from its floodplain due to dikes, levees and other flood control structures; 53 percent of banks in lower mainstem have been confined.
- All segments are considered “not properly functioning” for pool frequency, likely due to channel modification and lack of LWD.
- LWD is missing throughout entire basin, upper segments contain more LWD.
- Primary causes of water quality problems are high levels of fecal coliform bacteria, sediment, and low levels of dissolved oxygen.
- Failing septic systems, farming, and livestock contribute to water quality issues.
- DOE has developed the Stillaguamish River Watershed Water Cleanup Plan that establishes total maximum daily loads for bacteria, dissolved oxygen, and water temperature.
- 12 segments placed on federal CWA 303d list for temperature.
- Excess sediment due to logging, road construction, bank erosion, and landslides.
- Upper segments suffer from bank instability, contributing fine sediment to channel.
- Shoreline vegetation poor throughout basin, though 37 percent of segments have a continuous adjacent riparian corridor supporting some wildlife habitat.

- Much of shoreline vegetation has been cleared for forestry, agriculture, residential, or transportation uses.
- The estuary and adjacent agricultural lands are important overwintering areas for trumpeter swans and snow geese.
- Lower basin contains more than 2,000 acres of priority habitat area and over 1,000 acres of waterfowl concentrations.
- Overall, habitat conditions necessary to support aquatic species are poor.
- Chinook spawning areas are located within Lower Pilchuck Creek, Lower Stillaguamish River, Portage Creek, Boulder River, Deer Creek, French-Segelsen Creek, Upper & Lower NF Stillaguamish, Gold Basin, and Lower Canyon Creek.

Snohomish River Basin

The Snohomish River Basin drains 1,856 square miles in south Snohomish County and north King County. There are three major river systems: Snohomish, Skykomish, and Snoqualmie rivers containing 2,718 miles of rivers and streams, of which 529 are classified as shorelines of the state. The majority of the Snoqualmie and its tributaries lie within King County. For the purposes of this EIS, only those rivers and streams located within unincorporated Snohomish County are included.

Land uses within the basin include 75 percent forestry, 17 percent rural, 5 percent agriculture, and 4 percent urban. Predominant habitat types found are agricultural, estuarine, and lowland conifer forest. Floodplains and channels throughout the basin have been constrained by roads, dikes, levees, and channelization. 4,221 acres of County parklands provide public access to the shorelines.

Ecological functions of the Snohomish River Basin are summarized as follows:

- Total forest cover is 53 percent.
- Snohomish basin has naturally low summer flows that impact salmonid productivity, minimum instream flows have been set by DOE.
- The Pilchuck River experiences low flows due to diversions for drinking water by the cities of Snohomish and Granite Falls.
- Floodplain processes have been impacted and floodplains disconnected by dikes, levees and other flood control structures.
- The Skykomish River's "braided reach" remains a dynamic area with important channel and habitat forming functions.

- Overall lack of large, woody debris (LWD) and channelization has impacted formation of pools, riffles, and gravel bars.
- Upper Mainstem Skykomish has excellent spawning riffles for Chinook.
- LWD is lacking throughout basin due to historical removal for navigation or flood control measures.
- Main water quality issues are fecal coliform and low dissolved oxygen levels. Water quality issues created by urban, industrial and commercial runoff; removal of vegetation; septic systems; and manure sprayed on farm fields.
- Seven segments are on CWA 303d list for water temperature, with an additional four proposed for listing.
- Shoreline vegetation is generally poor throughout basin, only 2 percent of segments have healthy riparian corridors.
- Approximately 30 percent of segments contain riparian corridors (though poor quality) that support some habitat functions.
- Snohomish Estuary has over 5,000 acres of habitat, including over 3,000 acres of waterfowl concentration areas.
- The Tulalip, Lake Stevens, and lower Mainstem Skykomish basins have over 2,000 acres of priority habitat areas.
- Most of the basin has Chinook spawning areas, including many of the smaller streams.

Cedar-Sammamish River Basin

The Cedar-Sammamish River Basin drains 692 square miles, the majority of which (85 percent) is in King County. Within Snohomish County, the major sub-basins are North Creek, Swamp Creek, and Little Bear Creek. Swamp and North Creek sub-basins are within highly urbanized southwest Snohomish County and have land uses of 25 percent commercial, 25 percent forest/wetland, 25 percent low density residential, 10 percent rural, 10 percent high density residential, and 5 percent other uses. The 928 acres of County parklands provide public access to the shorelines.

This basin contains 13 miles of marine shoreline from Mukilteo south to King County. The shorelines within this area are addressed in Marine Environment section of this EIS. Ecological functions of the Cedar-Sammamish River Basin are summarized as follows:

- Basin has some of the lowest forest cover and highest impervious surface areas in the County. Total forest cover in Swamp Creek is 10 percent, with 38 percent impervious. North Creek is 13 percent forested with 31 percent impervious.

- Swamp Creek receives high flows from surrounding developed areas, though a network of large wetlands help to manage peak flows. Flooding problems have been identified at a number of culverts.
- Low flows occur in summer resulting in high temperatures and low dissolved oxygen.
- Low levels of LWD due to lack of large trees and dense stands within riparian corridors.
- Water quality issues from fecal coliform, low oxygen, and toxic metals from residential, commercial, and industrial uses; failing septic systems; highway runoff; illegal storm drain connections; hazardous material spills; peat mining; chemical storage; waste disposal; and filling of wetlands.
- Water temperatures violate state water quality standards.
- High percentage of fine sediments due to scour during high flows.
- Habitat includes shoreline vegetation and wetland areas with some limited waterfowl concentration areas.
- Salmon runs are present.

Skagit River Basin

The Skagit River Basin is the largest drainage basin to Puget Sound and is located primarily in Skagit County. Within Snohomish County are 44 miles of streams subject to the County's shoreline jurisdiction – the marine shoreline adjacent to Skagit Bay (covered in Marine section), and the headwaters of the Sauk and Suiattle Rivers. Most of Sauk and Suiattle Rivers are within national forests, national parks, national recreational areas or designated wilderness areas.

The predominate habitat types are aquatic and lowland conifer forest. 71 acres of County parklands provide public access to the shorelines. Ecological functions of the Skagit River Basin are summarized as follows:

- Floodplain connectivity is healthy on most of Sauk River.
- Sauk has naturally high levels of sediment due to landslides and glacial inputs – less than 10 percent of landslides are human caused.
- Little information is available for bank stability, water quality, and water temperature. However, segments of the Sauk are known to migrate significantly resulting in damage to buildings and roads.
- Shoreline vegetation in Suiattle is healthy.

- Some areas of shoreline vegetation on the Sauk are adversely impacted showing patchy vegetation.

Rivers and Streams with Intact Ecological Systems

Twenty-four rivers and streams were reviewed for, and found to meet, the criteria for Natural designation in one or more of its segments under the proposed SMP. These rivers and streams have ecologically intact shorelines that can be restored easily, or unique characteristics that should be protected. Rivers and streams with segments designated as Natural include the following (where unique characteristics exist, these are also noted):

- Sauk River & Dan Creek
- NF Stillaguamish (Trafton Farm within FEMA floodway) – The portion of the publicly owned Trafton Farm within the floodway should not be intensely developed. Area has a high scenic value and value for low-intensity recreation in its natural state.
- Boulder River, Squire & Ashton Creeks– Listed as a priority preservation sub-basin by the WRIA 5 salmon recovery plan, sub-basin forest cover is more than 65 percent intact.
- SF Stillaguamish (portions of Segment 4 and Robe Canyon Park) – Undeveloped shoreline is forested, unarmored, and in a substantially natural state. Area has a high scenic value and value for low-intensity recreation in its natural state. Example of naturally functioning river canyon and contains cultural and historical features.
- Canyon Creek (County owned) – Portion of publicly owned area is within FEMA floodway and should not be more intensely developed.
- NF Skykomish & SF Skykomish
- Streams above Spada Lake – Sultan, MF SF Sultan, SF Sultan, Elk, Boulder, Vesper, Kelly, Williamson, Stony, Everett - Listed as a priority preservation sub-basin by the WRIA 5 salmon recovery plan, sub-basin forest cover is more than 65 percent intact.
- Pilchuck (portions owned by County) – unusual undeveloped forested area owned by County, not platted for residential development, and no shoreline armoring. Area has a high scenic value and value for low-intensity recreation in its natural state.
- Snohomish (County owned and Bob Heirman Wildlife Reserve) – Undeveloped former farmland, unarmored, and containing many habitat features, such as off-channel habitat and wetlands. Most of the area is within FEMA floodway and should not be more intensely developed.
- Snoqualmie & Skykomish (at confluence) – Mature intact forest, should not be more intensely developed.

A portion of Skykomish meets criteria for Natural due to its dynamic braided reach that is forested and undeveloped; however due to the area's comprehensive plan designation of agriculture, this area has been designated Resource.

Within the County's Urban Growth Areas, shorelines with intact ecological systems or unique characteristics are designated as Urban Conservancy instead of Natural. Rivers with segments designated Urban Conservancy under the proposed SMP are as follow:

- Sauk (portions within FEMA floodway) – Undeveloped portion of floodway is within Darrington's UGA. The floodway and riparian corridor are serving important ecological functions and should not be more intensely developed.
- SF Stillaguamish - Undeveloped portion of floodway is within Arlington's UGA. The area is used for playing fields and has a comprehensive plan designation of Urban Horticulture. At another location on the SF Stillaguamish, is an undeveloped area within the floodplain at the edge of Arlington's UGA, adjacent to resource (agriculture) lands. National Wetland Inventory Maps indicate that wetlands may be present in this area.
- Quilceda – Undeveloped area has steep slopes and wetlands and flows into the Snohomish Estuary. UC designation is also consistent with City of Marysville's proposed comprehensive plan designations for the creek to the north and south. [*Note: This area was recently annexed by the City of Marysville*].
- Sultan (portions within FEMA floodway) - Undeveloped portion of floodway is within Sultan's UGA. The floodway and riparian corridor are serving important ecological functions and should not be more intensely developed.

3.3 Marine Shorelines

Snohomish County's water body coverage map was used to determine marine shoreline jurisdiction. Using GIS, the ordinary high water mark (OHWM) plus 200 feet were queried from this coverage. Additionally, wetlands in proximity to, and that either influence or are influenced by tidal waters were also included. Marine shorelines within city limits or tribal trusts were removed.

Puget Sound is generally divided into four major basins: Hood Canal, South Sound, Whidbey Basin, and the Main Basin. The Main Basin is further divided into Admiralty Inlet and the Central Basin. Snohomish County's marine shorelines are adjacent to Admiralty Inlet and the Central Basin. Of the areas subject to the SMA within Snohomish County, marine shorelines comprise only 3 percent.

Primary land uses along the County's marine shorelines are residential (78 percent), resource production (7 percent), undeveloped (7 percent), and manufacturing (6 percent). Commercial, other industrial, recreational and other uses make up less than 2 percent of the remaining shoreline uses. Transportation corridors are also a significant land use within these areas

(though not included in the above percentages). With some exceptions, there are few docks or overwater structures along the marine shoreline; however, armoring impacts 67 percent of all planning segments. Nine developed public access points provide access to the shoreline, with four of them located within Snohomish County Parks (Kayak Point, Meadowdale Park, Nakeeta Beach and Darlington Beach).

Many marine function indicators were analyzed to determine how much each marine shoreline has been impacted by development. Detailed data for each indicator can be found in the inventory report. The following indicators have been analyzed:

- Basin aquatic health and hydrologic regimes - road density or forest cover
- Shoreline armoring
- Sediment processes - armoring of feeder bluffs
- Water quality - listing in CWA 303d
- Presence/quality of adjacent wetlands
- Marine shoreline vegetation – tree and shrub cover

Major marine shoreline management issues highlighted in the inventory include:

- Shoreline armoring affects habitat function, wave energy, and shoreline vegetation in 67 percent of segments. The shoreline south of the Snohomish Estuary is 100 percent armored.
- Remaining healthy feeder bluffs must continue to be protected (as with Hat Island and north of Snohomish Estuary).
- Railroad corridors severely impact all ecological functions south of the Snohomish Estuary.
- Shoreline vegetation has been cleared in 74 percent of all segments – impacting shading, filtering and recruitment of LWD and organic debris. Existing critical saltwater habitats and habitat for threatened/endangered species must be protected. 73 percent of marine shoreline segments contain three or more critical saltwater habitats; 18 percent contain five or more.
- Protect and restore Snohomish Estuary.
- Wetland or shoreline fill affects 16 percent of shoreline segments, with most wetland fill occurring in the Snohomish and Stillaguamish Estuaries.

Shorelines designated Natural under the proposed SMP would remain relatively free of human influence, and development would only be allowed if existing shoreline ecological functions are protected. Some low-intensity uses would be allowed – such as low intensity agriculture or

water-oriented recreation. Single family residences and commercial forestry would be allowed as conditional uses. Marine shorelines proposed for Natural environment designation include:

- Otter Island (Portions of Steamboat 1 and Snohomish Estuary) – Otter Island is an isolated undeveloped island in the floodplain containing extensive wetlands. The estuary is a unique and valuable biological and cultural resource and an example of a basic geologic feature. Restoration and preservation are critical to protect threatened or endangered salmonids in the Snohomish River.
- Snohomish Estuary (portions) – Contains a large, old forested wetland that is the last remaining example of the natural conditions that once existed in the area. That area also contains floodplain wetlands that were purchased by the County for restoration purposes.
- Areas of Point Susan, South of Kayak Point Park – Contains steep cliffs with natural vegetation and the shoreline is essentially undeveloped.

Chapter 4 – Analysis of Potential Environmental Impacts

Updates to the WAC 173-26 requirements result in stronger protection for the natural environment and shoreline ecological functions. In addition, requirements to use the 20 cfs points to determine shoreline jurisdiction result in application of the SMP to a greater area. Impacts resulting from implementation of an updated SMP are primarily due to:

- Broader application of the SMP to areas previously unregulated under the SMA;
- Changes in the assigned shoreline environment designations, and
- Management criteria, policies and regulations requiring no net loss of shoreline ecological functions.

This supplemental environmental impact analysis will compare how the three alternative shoreline programs differ relative to the potential impacts from changes in shoreline jurisdiction, shoreline environment designations, and policy and regulatory standards.

4.1 Shoreline Jurisdiction

Pursuant to the criteria set forth in RCW 90.58.030(2) and WAC 173-18-040, the County is required to update its shoreline jurisdiction using the 20 cfs data to identify shoreline streams [WAC 173-18-044]. This update is required even if the County chooses Alternative 1 maintaining the current SMMP in place. In terms of total area subject to shoreline jurisdiction, Alternative 1 and Alternative 2 would be the same. Alternative 3 differs only in that the jurisdiction is reduced because portions of the 100-year floodplain are excluded.

Table 4 compares the shoreline jurisdiction criteria applied under each of the alternatives identifying which areas are subject to the SMA and therefore included on the SMP maps. The geographic extent of shoreline jurisdiction needs to be updated for all three alternatives based on jurisdictional changes between the county and other entities such as cities, tribes and federal ownership. Municipal annexations decrease the land base under county authority. Changes in tribal land status, such as adding or removing lands from tribal trust status, and federal land exchanges between the state or private entities can either add to or decrease the land base subject to County authority.

Alternatives 2 and 3 also include streams identified by the 20 cfs data. Analysis of this data shows that shoreline jurisdiction will be extended further upstream on several rivers and several new rivers will be added to the shoreline maps relative to Alternative 1. In no case does application of the 20 cfs data result in a reduction of shoreline jurisdiction on any river currently designated in the SMMP.

Table 4: Comparison of Shoreline Jurisdiction			
Shoreline Type	Alternative 1	Alternative 2	Alternative 3
Rivers	Rivers with flow of 20cfs or greater – as identified in WAC 173-18-350. Updated based on jurisdictional changes (city, tribal, federal lands) <ul style="list-style-type: none">- Associated 100-year floodplain- Shorelands w/in 200-feet of OHWM- Associated wetlands and estuaries- 53 Streams	Rivers with flow of 20cfs or greater – updated using latest 20 cfs data modeling from DOE; and based on jurisdictional changes (city, tribal, federal lands). <ul style="list-style-type: none">- Associated 100-year floodplain- Shorelands w/in 200-feet of OHWM- Associated wetlands and estuaries- 177 Streams	Rivers with flow of 20cfs or greater – updated using latest 20 cfs data modeling from DOE; and based on jurisdictional changes (city, tribal, federal lands). <ul style="list-style-type: none">- <i>Portion of associated 100-year floodplain w/in 200-feet of the floodway</i>- Shorelands within 200-feet of OHWM- Associated wetlands and estuaries- 177 Streams
Lakes	Lakes 20-acres or larger – as identified in WAC 173-20-640 and -650. Updated based on jurisdictional changes (city, tribal, federal lands) <ul style="list-style-type: none">- Shorelands w/in 200-feet of OHWM- Associated wetlands- 44 Lakes	Lakes 20-acres or larger – updated based on jurisdiction changes (city, tribal, federal lands) <ul style="list-style-type: none">- Shorelands w/in 200-feet of OHWM- Associated wetlands- 52 lakes	
Marine	All marine shorelines - updated based on jurisdiction changes (city, tribal, federal lands) <ul style="list-style-type: none">- Shorelands w/in 200-feet of OHWM- Associated wetlands, saltwater marshes, alluvial fans		
Total Acreage*	132,280 acres	139,872 acres	120,413 acres
* For all three alternatives, the total acreage includes 54,300 acres of Puget Sound extending waterward to the official county line.			

Alternative 2 includes the most acreage within the County's shoreline jurisdiction. Alternative 2 would result in relatively greater overall environmental protection than Alternative 1 or 3 because the general development standards would apply to a larger area. Both Alternative 2

and 3 comply with the requirements in WAC 173-18 and 173-20 for delimiting the streams and lakes subject to the SMA.

Alternative 1, the SMMP, is not currently in compliance with RCW 90.58.030(2), WAC 173-18-040 or WAC 173-20-046 as updated by the state in 2007. WAC 173-18-044 and 173-20-046 require that designation of streams and lakes be governed by the flow rate (streams) or size criteria (lakes) rather than by the specific water-body names listed in WAC 173-18-350, 173-20-640 and 173-20-650. The County must amend its SMP to reflect use of the required criteria within three years of the discovery of any discrepancies. Adoption of either Alternative 2 or 3 would resolve this jurisdictional issue and bring the County into compliance with the SMA.

4.2 Shoreline Environment Designations

Alternative 1, the County's current SMMP, divides the shoreline jurisdiction into five environment designations. Alternative 2 (and 3) use seven environment designations based on the updated guidelines in WAC 173-26-211. While these classification schemes differ, there is significant overlap in the management criteria since both schemes are consistent with the goals and intent of the SMA. Table 5 provides a comparison between these two classification schemes.

Alternatives 2 and 3 include an Urban designation which combines elements of the Urban and Suburban designations from Alternative 1. These shoreline environment designations accommodate a variety of uses at urban densities with preference for water-oriented uses, public access, residential uses and recreation.

Alternative 1 identifies Rural and Conservancy designations which conceptually overlap with each other and with the Alternative 2 and 3 designations of Rural Conservancy and Resource. Adoption of the County's comprehensive land use plan, adopted pursuant to the Growth Management Act [chapter 36.70A RCW] allows for clearer determination in assignment of the designations under Alternative 2 and 3. The Rural and Conservancy environments under Alternative 1 both include resource and residential management criteria. The Rural Conservancy designation under Alternative 2 and 3 focuses primarily on rural residential, commercial, industrial and recreational uses. The Resource designation focuses on resource uses and compatibility of other uses with resource needs and shoreline ecology.

Alternative 1 and Alternative 2 (and 3) include a Natural designation. Management criteria are designed to maintain the natural conditions and protect shoreline ecological functions. In Alternatives 2 and 3 the Natural environment is re-classified as Urban Conservancy when it occurs inside urban growth area boundaries.

In Alternative 1, the water areas are designated the same as the adjacent shorelands³. In Alternatives 2 and 3 the water areas below the ordinary high water mark (OHWM) are designated Aquatic consistent with WAC 173-26-211. This separation between shoreland and shoreline designations makes it clear that different regulatory standards apply on land as opposed to over- or in-water development. Alternative 2 and 3 apply a unique designation to Spada Lake (both the shoreline and the shorelands) of Municipal Watershed Utility to recognize the unique resource needs of this reservoir.

The purpose of presenting these management policies for the shoreline environment designations in Table 5 is so potential impacts resulting from changes from the old designations to the new designations can be assessed (Table 6A). Changing a higher intensity designation to a lower intensity designation will improve ecological protection but place more restrictive development standards on property owners. Changing a lower intensity designation to a higher intensity designation may result in potential for adverse environmental impacts but would likely increase the development options for the property owner. Potential adverse impacts would require mitigation achieved through development standards and ecological enhancement or restoration.

Tables 6A, 6B and 6C compare the changes in designation between Alternative 1, 2 and 3 and outline the potential impacts from the shift in management policy. Arrows indicate the relative shift in land use intensity expected as the current designations under the SMMP are replaced by the new designations in the SMP. Acreage estimates are included for Alternative 2 to provide a context for how significant each change in designation may be. The acreage estimates do not add to the reported totals due to rounding and imperfect overlap between the GIS data for the SMMP and the SMP. However, the estimates allow for a reasonable assessment of the relative impacts resulting from shifts from one designation to another. The development standards used to minimize and mitigate potential adverse impacts will be discussed in the next section of this chapter.

The economic impacts to property owners from changes in development potential resulting from a shift in shoreline environment designation will be discussed under *Chapter 5 - Economic Impacts* in this SEIS.

³ "Shorelands" means those upland areas associated with shorelines of the state including:

- (1) Uplands extending landward for 200 feet in all directions as measured on a horizontal plane from the ordinary high water mark;
- (2) Floodways and 100-year floodplains; and
- (3) All wetlands and river deltas associated with shorelines of the state

Table 5 – Comparison of Environment Management Criteria and Objectives	
Alternative 1	Alternatives 2 and 3
<p>Urban: Management policies emphasize placing new development into already developed, yet underutilized areas. Priority is given to water dependent uses requiring frontage on navigable waters. Consideration should be given to pedestrian access and aesthetics of the shoreline.</p> <p>Objective: To ensure optimum utilization of shorelines within urbanized areas by providing for intensive public use and by managing development so that it enhances and maintains shorelines for multiplicity of urban uses.</p>	<p>Urban: The management policies are similar to those under the existing Urban designation, although policies now indicate that the County’s comprehensive plan should guide the location, distribution, density, and type of uses. First priority should be given to water-dependent uses, second to water-related and water -enjoyment uses. Nonwater-oriented uses are prohibited except under certain strict conditions. Infill and re-development to water-oriented uses should be considered before considering expansion of urban areas.</p>
<p>Suburban: Policies seek to maintain and enhance residential character by controlling type, location, and scale of new development. Uses should be restricted to medium intensity and recreational uses, with commercial use limited to neighborhood oriented businesses. Permitted residential densities should be reduced in areas with steep slopes. Consideration should be given to pedestrian access and aesthetics of the shoreline.</p> <p>Objective: To protect, maintain, and enhance low and medium density shoreline residential areas. Preservation of the natural and suburban character of shoreline areas placed in this environment is of prime importance.</p>	<p>Design of multifamily, residential subdivisions and recreation uses should take into account the environmental limitations and sensitivity of the shorelines, and the capacity and availability of infrastructure and public services.</p> <p>Protection of ecological functions is required. Clean-up and restoration is encouraged.</p> <p>Objective: To provide for high-intensity water-oriented commercial, transportation and industrial uses and accommodate residential development and appurtenant structures while protecting existing ecological functions and restoring ecological functions in areas that have been previously degraded. An additional purpose is to provide appropriate public access and recreational uses.</p>
<p>Rural: Prime agricultural lands (and lands with agricultural potential) should be protected and maintained. Intensive development should be restricted in undeveloped areas; and industrial, commercial, and high density residential should be prohibited unless located in areas not suitable for farming. Recreational uses compatible with agriculture should be allowed. Rural character should be preserved through use of setbacks and open space. Mining is allowed in areas not suitable for prime agricultural use.</p> <p>Objective: To protect agricultural land from urban expansion, restrict</p>	<p>Rural Conservancy: The County’s comprehensive plan future land use map should be the primary guide for the location, type, density, and distribution of uses – though uses may be limited by SMA regulations. Uses should be limited to those that sustain the shoreline’s physical and biological resources and do not substantially degrade ecological functions or the rural character of the area. Some low intensity, water-oriented commercial and industrial may be allowed in areas where they have located in the past (RB, RI or RFS zoning). Residential development may be allowed with controls on density, lot coverage, and vegetation management. Any type of development should be designed so that the natural shoreline functions are</p>

<p>intensive development along undeveloped shorelines, function as a buffer between urban areas, and maintain open spaces and opportunities for recreational and other uses compatible with agricultural activities.</p>	<p>protected.</p> <p>Objective: To accommodate residential development while protecting existing ecological functions and restoring ecological functions in areas that have been previously degraded. Providing public access and recreational opportunities are also important purposes of this designation.</p>
<p>Conservancy: Uses should not permanently deplete resources, and priority should be given to non-permanent farm uses. Outdoor recreation, timber harvesting (on sustained yield basis), farming, and aquaculture should be encouraged. Residential development should be limited to an overall density of less than one dwelling unit per two acres of land. New development should not require extensive alteration of the land-water interface, nor installation of structural flood control protection.</p> <p>Objective: To protect, conserve, enhance, and manage existing natural resource areas and valuable historic and cultural areas. This should be done in a manner that ensures recreational benefits to the public or achieves sustained resource utilization without substantial adverse modification of shorelines or topography.</p>	<p>Resource: Agricultural, forestry, aquaculture, and water dependent/enjoyment recreation are preferred uses; low density residential uses may be allowed. Development that significantly degrades or permanently depletes biological resources should not be allowed. Structural shoreline stabilization and flood control structures should only be allowed where need is documented. Non-commercial mining may be allowed in uplands under limited circumstances. Recreation and residential uses should be compatible with resource uses.</p> <p>Objective: Intended for areas within shoreline jurisdiction that are currently used or planned for agriculture, commercial forest practices, or mineral extraction. The intent is to conserve existing natural resources and valuable historic and cultural areas in order to provide for sustained resource use.</p>
<p>Natural: Severe restrictions should be applied to the intensity and uses allowed in order to maintain natural systems in their natural state. Limited access should be allowed to areas with significant recreational value, as long as the environment is not adversely impacted.</p> <p>Objective: To preserve or restore to a natural character those resource systems existing relatively free of human influence. Policies to achieve this objective should aim to regulate all potential developments degrading or changing the natural characteristics that make these areas unique and valuable.</p>	<p>Natural: The proposed policies are similar to the existing Natural policies in that they limit allowed uses and strive to protect the ecological functions and natural character of the area. The following are new policies:</p> <ul style="list-style-type: none"> • New commercial, industrial, nonwater-oriented recreation, roads, and parking areas are prohibited. • Single family residences may be allowed as a conditional use if the density is limited. • Commercial forestry may be allowed if it meets conditions of State Forest Practices Act. • Very low-intensity agricultural uses (with limitations and conditions) may be allowed. <p>Objective: To protect or restore shoreline areas that are relatively free of human influence or that include intact or minimally degraded shoreline functions that are intolerant of human use. These systems require that only very low intensity uses be</p>

	<p>allowed in order to maintain the ecological functions and ecosystem-wide processes. Future uses should be compatible with the natural characteristics that make these areas unique and valuable.</p> <p>Urban Conservancy: Allowed uses should preserve the natural character of these areas, with priority given to water-oriented uses. Along navigable waterways, water dependent uses should be given the highest priority. Public access and recreations should be accommodated where possible.</p> <p>Objective: To protect and restore ecological functions of open space, floodplain, and other sensitive lands where they exist in urban and developed settings, while allowing a variety of compatible uses.</p>
<p>(There are no comparable environment designations in the SMMP for the Municipal Watershed Utility and Aquatic designations in the proposed SMP. In the SMMP, all shorelines are designated consistent with the adjacent shorelands.)</p>	<p>Municipal Utility Watershed: Land use activities are governed by the Federal Energy Regulatory Commission. Operation and maintenance of reservoirs are allowed for the purpose of public water supply, power generation, and/or flood control. Public access should be limited to areas that will not interfere with the operation of the reservoir.</p> <p>Objective: To protect public water supply, power generation, and/or flood control reservoirs (e.g., Spada Lake) in order to preserve and protect water quality for public health and safety.</p> <p>Aquatic: These policies apply to shorelines waterward of the ordinary high water mark (OHWM). Structures may only be allowed if the cumulative environmental impacts will not cause significant adverse impacts to protected species. Structures should be minimal in size, contain multiple uses, and be designed for minimum interference to navigation.</p> <p>Objective: To protect, restore, and manage the unique characteristics and resources of the areas waterward of the ordinary high water mark (OHWM).</p>

Table 6A: Potential Impacts Resulting from Shifts in Environment Designation Based on Management Criteria

Designation under Alt. 1 is But changes to <u>(new designation)</u> under Alternative 2.	Acreage Estimate	Relative shift in use intensity
Urban	Aquatic: Clarifies that over- and in-water uses and modifications are limited.	172	↓
	Resource: Shift represents a reduction in intensity of shoreline uses and modifications with a change in focus from a multiplicity of urban uses to resource uses, low-density rural residential and recreation.	67	↓
	Rural Conservancy: Shift represents a reduction in intensity of shoreline uses and modifications with a change in focus from a multiplicity of urban uses to rural residential and recreation.	68	↓
	Urban: Shift from Urban under the SMMP to Urban under the SMP results in minimal change to management of the environment.	383	↔
Suburban	Aquatic: Clarifies that over- and in-water uses and modifications are limited.	2747	↓
	Natural: Shift from Suburban to Natural results in significant reduction of use intensity and increased restriction of uses and modifications.	4	↓
	Resource: Shift from residential focus to resource uses, including resource-related industry, residential and recreation.	12	↑
	Rural Conservancy: Shift from Suburban under the SMMP to Rural Conservancy under the SMP results in minimal overall change to management of the environment primarily for residential uses.	1374	↔
	Urban: Shift results in higher intensity of potential land uses and modifications, particularly for water-oriented commercial or industrial uses. Residential uses would be similar but with more multifamily potential in the Urban.	275	↑
	Urban Conservancy: Urban Conservancy and Suburban designations are similar in that both are predominantly residential in character. Urban Conservancy is more restrictive in terms of shoreline modifications and water-related structures accessory to residential uses.	27	↓
Rural	Aquatic: Clarifies that over- and in-water uses and modifications are limited.	1697	↓
	Natural: Shift from Rural to Natural results in significant reduction of use intensity and increased restriction of uses and modifications.	1233	↓
	Resource: Shift from Rural under the SMMP to Resource under the SMP results in minimal change to management of the environment for resource uses.	40751	↔

	Rural Conservancy: Shift results in change from focus on resource uses to focus predominantly on low density residential. Modifications are subject to more restrictions in Rural Conservancy. Both also focus on access and recreation. Rural Conservancy focuses on protection and restoration of ecological functions.	4467	↓
	Urban: Shift results in an increase in intensity.	278	↑
	Urban Conservancy: Shift from focus on resource uses to ecological protection in an urban setting.	248	↓
Conservancy	Aquatic: Clarifies that over- and in-water uses and modifications are limited (<i>excludes Puget Sound – 54,300 acres</i>)	5341	↓
	Natural: Shift from Conservancy to Natural results in reduction of use intensity and increased restriction of uses and modifications.	2666	↓
	Resource: The objectives of both environments focus on conservation of natural resources and resource-related land use.	6702	↔
	Rural Conservancy: Both environments have similar residential objectives and focus on conservation of natural resources and ecology, minimum alteration of shorelines.	7656	↔
	Urban: Shift results in an increase in intensity.	133	↑
	Urban Conservancy: Similar focus on ecological protection, difference is the shift in setting from rural to urban.	213	↑
Natural	Aquatic: Clarifies that over- and in-water uses and modifications are limited.	490	↓
	Natural: Shift from Natural under the SMMP to Natural under the SMP results in minimal change to management of the environment.	1000	↔
	Resource: Shift results in potential for increased intensity in land uses.	10	↑
	Rural Conservancy: Shift results in potential for increased intensity in land uses.	6	↑
	Urban: Shift results in potential for increased intensity in land uses.	10	↑
Undesignated in SMMP: Additional shorelines added to SMP	Aquatic: Application of the SMP to new shorelines is similar to the restrictions that already exist for these waters.	1850	↓
	Natural: Application of the SMP increases the restrictions on land use in the Natural environment.	275	↓
	Resource: Application of the SMP increases the restrictions on land use in the Resource environment.	1580	↓
	Rural Conservancy Application of the SMP increases the restrictions on land use in the Rural Conservancy environment.	1404	↓
	Urban Application of the SMP increases the restrictions on land use in the Urban environment.	62	↓






	Urban Conservancy: Application of the SMP increases the restrictions on land use in the Urban Conservancy environment.	20	
	Municipal Watershed Utility: Application of the SMP to Spada Lake is similar to the restrictions that already exist in the area.	2252	

Table 6B: Summary - Potential Impacts Resulting from Shifts in Environment Designation Based On Management Criteria		
Relative Impacts: Shift from Alternative 1 to Alternative 2	Acreage Estimate	Relative shift in use intensity
Decreased intensity of land uses and improved ecological protection	24,418	
Increased intensity of land uses and increased potential for adverse impacts to shoreline ecology	937	
No change in expected land use intensity and no new impacts to shoreline ecology	60,117	

Analysis of the acreage estimates in Table 6B indicates that approximately 60,117 acres would not be significantly impacted by a shift from the current designations under the SMMP to the new designations under the SMP because the management criteria for the shoreline environments are essentially unchanged by the shift.

Approximately 24,418 acres would be subject to more stringent environmental standards due to a reduction in the allowed land use intensity either due to a shift in environment designation or because new areas have been added to the County's shoreline jurisdiction and would now be subject to SMP requirements for the first time. While this shift would not result in adverse environmental impacts, it is worth noting that landowners in these areas will be impacted to some degree by the regulations in the SMP. Impacts to landowners will likely result from implementation of the land use goals in the SMA giving preference to water-oriented uses and restricting those uses not considered to be water-oriented. Impacts from environmental regulations will be more subtle resulting from required design standards in the SMP rather than from direct implementation of the critical area regulations which apply equally within and outside of shoreline jurisdiction. Shorelines subject to a shift to the Natural environment designation will experience the greatest degree of impacts resulting from restrictive development policies and regulatory standards in the proposed SMP. These impacts are

discussed in more detail in *Chapter 5 – Economic Impacts* of this SEIS and in the *Cumulative Impact Analysis* in Appendix C.

An estimated 937 acres would see a potential increase in allowed land use intensity. It is here where new potential adverse environmental impacts may occur due to implementation of Alternative 2, the proposed SMP. The potential impacts depend on the type of designation shift and unique conditions present at the specific location. Table 6C provides an overview of these potential adverse environmental impacts by designation shift and by location.

The most significant potential for adverse environmental impacts would result from the shift from Rural or Conservancy under the SMMP (Alternative 1) to Urban under the SMP (Alternative 2). This shift in shoreline environment designation results from inclusion of these areas inside urban growth area (UGA) boundaries⁴. UGA boundaries are established in the county's comprehensive plan and are not adopted as part of the SMP but these areas do impact the shoreline environment designations. Areas designated Urban under Alternative 2 could be used for development of water-oriented commercial, industrial or recreational uses or for residential uses at urban densities consistent with development patterns for lands inside UGAs. This type of development is consistent with the economic and public access goals of the SMA and with the goals under the GMA to consolidate urban development. However, to be consistent with the ecological protection requirements under the SMA, development standards in the Urban environment must preserve the existing shoreline ecological functions. The following section will discuss the regulatory offsets necessary to minimize and mitigate adverse environmental impacts.

Alternative 3, the reduced jurisdiction alternative, has the same management criteria as Alternative 2 but reduces the relative shoreline jurisdiction in the 100-year floodplain, the most significant result being a reduction in the amount of land currently designated as Rural under the SMMP (Alternative 1) or Resource under the proposed SMP (Alternative 2). Alternative 3 applies the SMP standards to less physical area than Alternative 2. The areas excluded from SMP jurisdiction under Alternative 3 would not be subject to the use preference⁵, public access requirements or development standards contained in the SMP. However, the excluded areas under Alternative 3 must still meet the development standards and requirements for 100-year floodplains and for critical areas, as applicable. Potentially, these excluded areas could see a broader range of development options than under the SMP but would be required to provide ecological protection equivalent to SMP standards.

⁴ Impacts associated with inclusion of rural lands inside UGAs via UGA expansion are evaluated under a separate SEPA process in conjunction with the county's comprehensive plan updates. UGA expansion is not proposed as part of the SMP update.

⁵ The SMA establishes a hierarchy of preferred uses within shoreline jurisdiction: water-dependent, water-related and water-enjoyment uses are preferred. Single family residential uses are also given preferential treatment under the SMA [RCW 90.58.020].

Table 6C. Potential Impacts from Increased Land Use Intensity by Designation Shift and Location (937 Acres)		
Designation Shift: Alternative 1 → Alternative 2	Location(s)	Potential Impacts
Suburban → Resource (12 acres)	Lake Roesiger; Skykomish River (Gold Bar – Index)	Small slivers of land where comprehensive plan designations overlap shoreline jurisdiction; homes and cabins already developed – no new impacts expected.
Suburban → Urban (275 acres)	Lake Stevens (south end); Lake Serene; Lake Stickney (east half); Martha Lake (SW UGA); Swamp Creek	Developed residential areas – no new impacts expected, density controlled by zoning, riparian buffer protection requirements apply.
Rural → Urban (278 acres)	Stanwood (west and south); Arlington (north, east); Everett (north along I-5); Lake Stevens (east); Granite Falls (south); Snohomish (Harvey Field); Monroe (east); Sultan (northwest, south); Gold Bar (north, east)	Switch from Rural to Urban is predominantly due to expansion of the UGAs. Future development will be limited by floodplain considerations. Most areas already developed. Stanwood, Arlington, Lake Stevens, Snohomish, Gold Bar have some vacant areas. (Most of Harvey Field area is already designated Urban in the SMMP.)
Conservancy → Urban (133 acres)	Darrington (southeast); Everett (Ebey/Steamboat Slough) Granite Falls (south); Marine (Pt. Wells, Picnic Pt.); Monroe (east);	Sites lie within UGAs. Everett, Pt. Wells, Darrington have some lands which could be developed/redeveloped. Others are predominantly residential w/ stream buffers. Riparian buffer retention, floodplain and channel migration considerations will be limiting factors. (Pt. Wells is currently designated as both Urban and Conservancy in the SMMP)
Conservancy → Urban Consv. (213 acres)	Darrington (east); Quilceda Creek; Lake Stickney (west half)	Potential for new urban development but limited by management criteria focus on ecological protection; minimal potential at Quilceda – already residential development w/ riparian buffers; physical environment will limit development adjacent to the Sauk (active channel migration) and Lake Stickney (wetlands)
Natural → Resource (10 acres)	South Fork Stillaguamish (east of Granite Falls); Three Rivers junction area	Most of the area will remain Natural; small areas expected to continue existing farming (Three Rivers) and timber (SF Stillaguamish).

Natural → Rural Conservancy (6 acres)	Kayak Point Park	Potential impacts due to recreation development at park.
Natural → Urban (10 acres)	Picnic Point Park; Shipwreck Beach (116 th & Marine View – SW County)	Potential impacts due to recreation development at park; access to Shipwreck is limited by RR.

4.3 Policy Comparison

Table 7 is an updated version of Table 3 from the original DEIS (2006) and provides a comprehensive comparison of the use and modification policies contained in the SMMP (Alternative 1) and the proposed SMP under both Alternatives 2 and 3. Included is an assessment of the potential impacts resulting from the relative changes in policy. Table 7 also indicates which sections of the SMMP have been combined into new sections, re-named, added or deleted in the proposed SMP.

Most sections of the proposed SMP contain relatively stronger policies than the SMMP in terms of shoreline ecological protection. The following sections of the proposed SMP policies should be highlighted from Table 7 where the potential for adverse environmental impacts may be increased relative to the old SMMP policies:

- Agriculture
- Dredging
- Institutional Uses
- Public Access
- Signs

Overall, the proposed SMP policies result in improved environmental protection when compared to the SMMP, with the exceptions noted above and described in more detail in Table 7. The proposed SMP policies are the result of an extensive public participation process by the Shoreline Advisory Committee during the time period, 2004 through 2006.

It should be noted that all of these uses or modifications are subject to the “no net loss standard” for shoreline ecological protection and are also subject to regulatory design standards and management practices which should minimize and mitigate potential adverse impacts. These regulatory standards and offsets are presented in Tables 8 and 9 respectively.

Again, Alternative 3 applies the SMP policies to less physical area than Alternative 2. These excluded areas could see a broader range of development options than under the SMP but would be required to provide ecological protection equivalent to SMP standards because they are still subject to the critical area regulations.

Table 7: Comparison of the Use and Modification Policies

Old (SMMP) Alternative 1	New (SMP) Alternative 2/3	Changes	Description
Agriculture	Agriculture	Significant additions	<p>Vegetation management, erosion control, water quality (CAFO and manure lagoon) policies are similar. New policies expanded to address long term preservation of agricultural lands; implementation of NRCS best management practices; allow agricultural uses and temporary farm uses; prevent artificial stream controls which damage agricultural lands; use soft armoring techniques when protection is needed; encourage voluntary restoration activities.</p> <p>IMPACT ASSESSMENT: New policies seek to protect both agricultural lands and practices and shoreline ecological functions. The SMA applies only to new agricultural activities on lands not previously used for agriculture. Use of best management practices should help to minimize and mitigate potential adverse impacts to ecological functions.</p>
Aquaculture	Aquaculture	Significant additions	<p>Existing policies mostly deal with location of aquaculture to protect navigational access, views/aesthetics with some ecological protection measures. The proposed policies still include these issues, but additional policies have been added to emphasize protection of the shoreline/aquatic environment and “no net loss” standard:</p> <ul style="list-style-type: none"> • Locating where biophysical conditions are suitable. • Preventing development over sensitive areas (critical saltwater, marshes, estuaries, etc.). • Protection of native aquatic flora and fauna and prevention of establishing non-native species. • Preferential Preferred location within Urban environment. • Minimize use of chemicals (pesticides, herbicides, antibiotics, etc.). <p>IMPACT ASSESSMENT: New policies establish standards for stronger ecological protection; reduced potential for adverse impacts.</p>
Archaeological Areas & Historic Sites	Cultural, Archaeological and Historic Element	Substantial changes	<p>New policies shift focus to protection of cultural resources and less focus on procedural components. The procedural components of notification and evaluation by experts have been incorporated into regulations (chapter 30.32D SCC).</p> <p>IMPACT ASSESSMENT: New policies establish standards for stronger protection of sensitive sites; reduced potential for adverse impacts.</p>
Beach and Stream Enhancement	Shoreline Restoration and Enhancement	Significant additions	<p>Similar concept of ecological restoration. The existing SMMP also includes beach enhancement for recreation purposes. New policies expanded to recommend incentive and acquisition programs to encourage restoration; facilitate permit process for restoration projects; projects should focus on the cause and not just the symptoms; recreate natural conditions; low or no maintenance solutions preferred. The following policies are specifically aimed</p>

			<p>at shoreline habitat and restoration:</p> <ul style="list-style-type: none"> • Critical functions should not be degraded • Preference for non-structural approaches requiring low maintenance • Should be allowed in all designations and should result in natural shoreline with functions that would have been historically found in the area • Address habitat degradation causes rather than symptoms • Existing artificial structures impeding natural recovery should be removed • Isolated sloughs and wetlands should be reconnected to fish accessible waters <p>IMPACT ASSESSMENT: Focus on ecological improvements; no adverse impacts.</p>
Boating Facilities	Boating Facilities	Combined into one section	Proposed policies are similar to existing, promote shared facilities; however, a significant number of policies have been added to support environmental protection and the “no net loss” standard. New policies include:
Piers		Significant additions	<ul style="list-style-type: none"> • Avoidance of wood treated products in contact with water. • Incorporating grating into overwater structures; open pile piers rather than floating structures. • Marinas or boat launch facilities should not be built over eelgrass beds, forage fish spawning areas, mudflats, sandflats, pocket estuaries. • Locate marinas in deep water areas to avoid dredging; other structures should be located in deep water to avoid prop scour and shading impacts. • No siting of marinas within ½ mile of any sewage outfall. • Mitigation plan required for all unavoidable impacts. • Alternatives analysis must be done prior to siting in-water marinas to determine if it is feasible to have upland boat storage areas. <p>IMPACT ASSESSMENT: New policies establish standards for stronger ecological protection; reduced potential for adverse impacts.</p>
Breakwaters	Breakwaters, Jetties , Groins & Other In-water Structures	Combined into one section;	Current policies on Breakwaters, Jetties & Groins are general in nature, emphasizing location and design that minimize environmental and aesthetic impacts, shared uses, and preference for floating and non-solid breakwaters. Policies are contained in two separate sections. The proposed plan combines similar policies into one section, with addition of the following:
Jetties and Groins		Significant additions	<ul style="list-style-type: none"> • Breakwaters, jetties and groins only allowed waterward of OHWM when necessary to support a water-dependent use. • Mitigation sequencing must be followed when evaluating proposals for breakwaters; need must be demonstrated first.

			<ul style="list-style-type: none"> Floating breakwaters parallel to shoreline are the only type permitted, unless proven not feasible. Should not be located over critical saltwater habitat. Should be designed and located to avoid or mitigate impacts to shoreline formation, other properties, and public access and navigation. <p>IMPACT ASSESSMENT: New policies establish standards for stronger ecological protection; reduced potential for adverse impacts.</p>
<p>Bulkheads</p> <p>Shoreline Stabilization and Flood Control</p>	<p>Shoreline and Bank Stabilization</p> <p>Flood Control Measures</p>	<p>Re-combined into two new sections;</p> <p>Significant additions</p>	<p>Existing policies permit construction of bulkheads only when other methods are not feasible. Construction of new bulkheads is strongly discouraged under the proposed plan. No specific section for Bulkheads is included in the proposed SMP.</p> <p><u>Stabilization:</u> A significant number of new policies has been added to protect critical shoreline functions, “no net loss,” and to allow stabilization only where necessary:</p> <ul style="list-style-type: none"> Permit only where non-structural methods are not feasible and where stabilization is necessary to protect primary structures (not for indirect purpose of creating land by filling behind bulkhead). Locate to minimize impacts to downdrift, downstream, or adjacent properties. Avoid intruding into/over critical saltwater habitats. Blend with surroundings, maintain public access. Do not locate near eroding bluffs. Bioengineering techniques are preferred. <p><u>Flood Control:</u> A significant number of new policies has been added to protect critical shoreline functions, “no net loss,” and to allow flood protection only where necessary:</p> <ul style="list-style-type: none"> Only allow to protect existing development or restore critical areas/functions. Non-structural methods preferred; should protect integrity of hydraulic system. Place landward of wetlands and CMZs. <p>IMPACT ASSESSMENT: New policies establish standards for stronger ecological protection; reduced potential for adverse impacts.</p>
Commercial Development	Commercial	Significant additions	Existing policies provide general guidance for location and design of commercial development to minimize impacts to aesthetics and access, and gives preference to water-oriented uses. Proposed policies include more detail about location and design to ensure minimal environmental impacts and “no net loss” standard:

			<ul style="list-style-type: none"> • Preference should be given to water-dependent and water-related uses (as primary use). • Incorporate innovative design and low impact approaches to reduce building footprints, prevent need for shoreline stabilization, protect critical areas/functions, and protect views • Parking, loading and service areas should be located +200 feet away from water's edge. • Overwater coverage should be minimized and runoff contained and treated. • Restoration and public access projects are allowed as water -dependent portion of non-water oriented commercial use. <p>IMPACT ASSESSMENT: New policies establish standards for stronger ecological protection; reduced potential for adverse impacts.</p>
Dredging	Dredging and Dredge Spoil Disposal	Substantial changes	<p>Both address ecological protection, deposition at approved sites, and dredging to obtain fill materials prohibited. New policies do not address periodic review of active dredging projects or prohibition of spoil disposal at archaeological sites. New policies added to:</p> <ul style="list-style-type: none"> • Design/locate new projects to reduce need for maintenance dredging • Dredging allowed to maintain public water supply, hydroelectric, and flood control systems. <p>IMPACT ASSESSMENT: New policies do not address concept of project monitoring or deposition at culturally sensitive sites. Protection of cultural sites is covered in cultural/archaeological section. Monitoring of projects could be addressed in the permit review and enforcement processes – re-instatement of the old policy would support use of this type of permit condition.</p>
Forest Management Practices Ports and Water-related Industry (Log Storage)	Forestry	Merge related policy sections; Substantial deletions	<p>Log storage policies moved from Ports and Water-related Industry to new forestry section. New forestry policies are significantly reduced as most forestry activity is regulated by the state Forest Practices Act. The most significant proposed policy states that new log storage and rafting areas should be located out of the water; and expansion of existing storage/rafting areas should not be allowed if grounding will occur.</p> <p>IMPACT ASSESSMENT: Policy deletions do not affect how forestry activities will be implemented since forest practices are regulated under state law. Forest activities are subject to the no net loss standard. No new adverse impacts expected.</p>
***	Institutional Uses	New Section	<p>This use was not included in the original SMMP. This use was included in the proposed shoreline use matrix (2006) but no policies were included in the 2006 draft SMP. The new policies are modeled after the proposed commercial use policies:</p> <ul style="list-style-type: none"> • Preference for water-dependent or water-related uses, or for public access to the shoreline • Locate in areas where similar uses already exist

			<ul style="list-style-type: none"> Minimize ecological impacts: use LID, locate away from OHWM, avoid need for shoreline stabilization Minimize view impacts: building placement, height, design, public access <p>IMPACT ASSESSMENT: This is a new use allowed in shoreline jurisdiction but subject to no net loss ecological standards. Because this is a new use allowed in shoreline jurisdiction there is a relative increase in potential for adverse impacts but impacts should be minimized and mitigated by employing required standards.</p>
Landfill and Solid Waste Disposal	Fill	Substantial changes	<p>The existing policies prohibit sanitary landfills or solid waste disposals; however, landfills are allowed if required for a water-dependent use, enhance public access, or enhance the function of the water body. Proposed policy under Fill section prohibits sanitary landfills or solid waste disposal sites in any shoreline area.</p> <p>Proposed policies support use of minimum fill only where necessary and where impacts can be mitigated. Fills waterward of OHWM should be allowed only where necessary for a water-dependent use, public access, or restoration project. Fills should not impact navigation and should ensure no net loss of ecological functions.</p> <p>IMPACT ASSESSMENT: New policies establish standards for stronger ecological protection; reduced potential for adverse impacts.</p>
Mining	Mining	Significant deletions	<p>The existing plan contains 12 policies for mining that limit types and location of mining activity, as well as environmental protections and reclamation. Under the proposed SMP, mining is restricted to areas designated in the County's comprehensive plan mineral resources overlay (MRO).</p> <p>IMPACT ASSESSMENT: There is minimal overlap between the MRO and shoreline jurisdiction. This will significantly limit the opportunity for mining in shorelines relative to the old SMMP. Reduced potential for adverse impacts.</p>
Ports and Water-Related Industry	Industry and Ports	Minor changes	<p>Additional proposed policies have been added to ensure no net loss of ecological functions, including minimizing overwater coverage, avoidance of treated wood products contacting the water, and placing support facilities away from the shoreline. Building orientation, screening, building height, and creation of view corridors should be considered to minimize view impacts.</p> <p>Log storage policies have been moved to Forestry section.</p> <p>IMPACT ASSESSMENT: New policies establish standards for stronger ecological protection; reduced potential for adverse impacts.</p>
Public Access	Public Access	Similar	<p>Proposed policies are similar to existing with one addition: Non-residential water-enjoyment and non-water-oriented uses fronting the shoreline should provide continuous public access along entire site's shoreline. Residential development of more than four lots should provide public access at a minimum of one point along shoreline.</p> <p>IMPACT ASSESSMENT: Public access is an SMA requirement which may not be entirely compatible with the no net loss</p>

			standard for shoreline ecological functions. Relative increase in potential for adverse impacts but impacts should be minimized and mitigated by employing required standards.
Recreation	Recreation	Similar	<p>Proposed policies are similar, with addition of policy stating that recreational uses and development should be designed and located to ensure no net loss of ecological functions.</p> <p>IMPACT ASSESSMENT: New policies establish standards for stronger ecological protection; reduced potential for adverse impacts.</p>
Residential	Residential	Minor changes	<p>Policies are similar, with a few changes:</p> <ul style="list-style-type: none"> Existing policy encourages the use of planned residential development and rural cluster subdivisions, while the proposed policy requires it. Requires geotechnical analysis to ensure development will not cause need for shoreline stabilization or flood protection. Removal of vegetation that could contribute to destabilization of bluffs should be avoided (except for removal of hazardous trees). Houseboats are to be located only in approved mooring slips with adequate waste disposal practices. <p>IMPACT ASSESSMENT: New policies establish standards for stronger ecological protection; reduced potential for adverse impacts.</p>
Roads and Railroads	Transportation, Circulation and Parking Facilities	Similar	<p>Policies are similar to existing, with addition of policies protecting ecological functions and water quality. Transportation facilities should be located/designed to avoid impacts to shorelines.</p> <p>Existing plan has no specific policies on parking, only regulations. Proposed policies state that parking is not a preferred use and should only be allowed to support an authorized use. Parking should be located as far away from OHWM as feasible, should be designed to minimize environmental and visual impacts, and should provide for public access to and enjoyment of the shoreline.</p> <p>IMPACT ASSESSMENT: New policies establish standards for stronger ecological protection; reduced potential for adverse impacts.</p>
Signs	***	No policies for signs in new proposal	<p>There are no policies for signs in the proposed SMP. The proposed SMP does include regulations similar to those in the original SMMP for the design and placement of signs to preserve views in shoreline areas.</p> <p>IMPACT ASSESSMENT: Lack of policies in the proposed SMP reduces the relative strength of the environmental protection provided under the proposed SMP compared to the old SMMP. Sign impacts are directly related to visual</p>

			aesthetics and view blockage but are also indirectly related to the clearing of vegetation necessary to improve sign visibility. Vegetation removal is addressed in the vegetation management section.
Utilities	Utilities	Significant changes	<p>Proposed policies shift from guiding installation of utilities to prohibiting their installation in shoreline areas unless no other options are available. Other proposed policies include:</p> <ul style="list-style-type: none"> • No net loss of ecological functions. • Prohibiting installation along feeder bluffs or landslide areas. • Prohibiting pipelines and cables on tidelands unless no other option. • Project areas should be restored to pre-project conditions w/ native plants installed and maintained. • Dredging should be allowed to maintain and operate public water supply, power generation, and flood control reservoirs. <p>IMPACT ASSESSMENT: New policies establish standards for stronger ecological protection; reduced potential for adverse impacts.</p>
Vegetation Management	Vegetation Management	Minor additions	<p>Policies are the same, with the following additions: restoration of impacted areas using soil bioengineering; use of vegetated buffers; discourage use of fertilizers and pesticides; encourage noxious weed management and control.</p> <p>IMPACT ASSESSMENT: New policies establish standards for stronger ecological protection; reduced potential for adverse impacts.</p>
Water Quality	***	Policies found w/in other sections	<p>No separate section for water quality policies; proposed SMP has policies and regulations protecting water quality throughout all sections. Proposed policies focus more generally on protecting ecological functions, including water quality; encouraging ecologically friendly design standards (LID, building placement, setbacks and construction materials, septic design and placement, etc.) and maintenance of buffers and native vegetation.</p> <p>IMPACT ASSESSMENT: New policies establish standards for stronger ecological protection; reduced potential for adverse impacts.</p>

4.4 Comparison of Regulatory Standards

Regulatory standards vary between shoreline environment designation based on the ecological functions present, the environmental sensitivity to disruption and the potential for successful mitigation of adverse impacts. Allowed uses and modifications must be compatible with the goals of the SMA and with the management policies for the specific shoreline environment where the use or modification is located. Proposed shoreline regulations were developed following the analysis process illustrated in Figure 6.

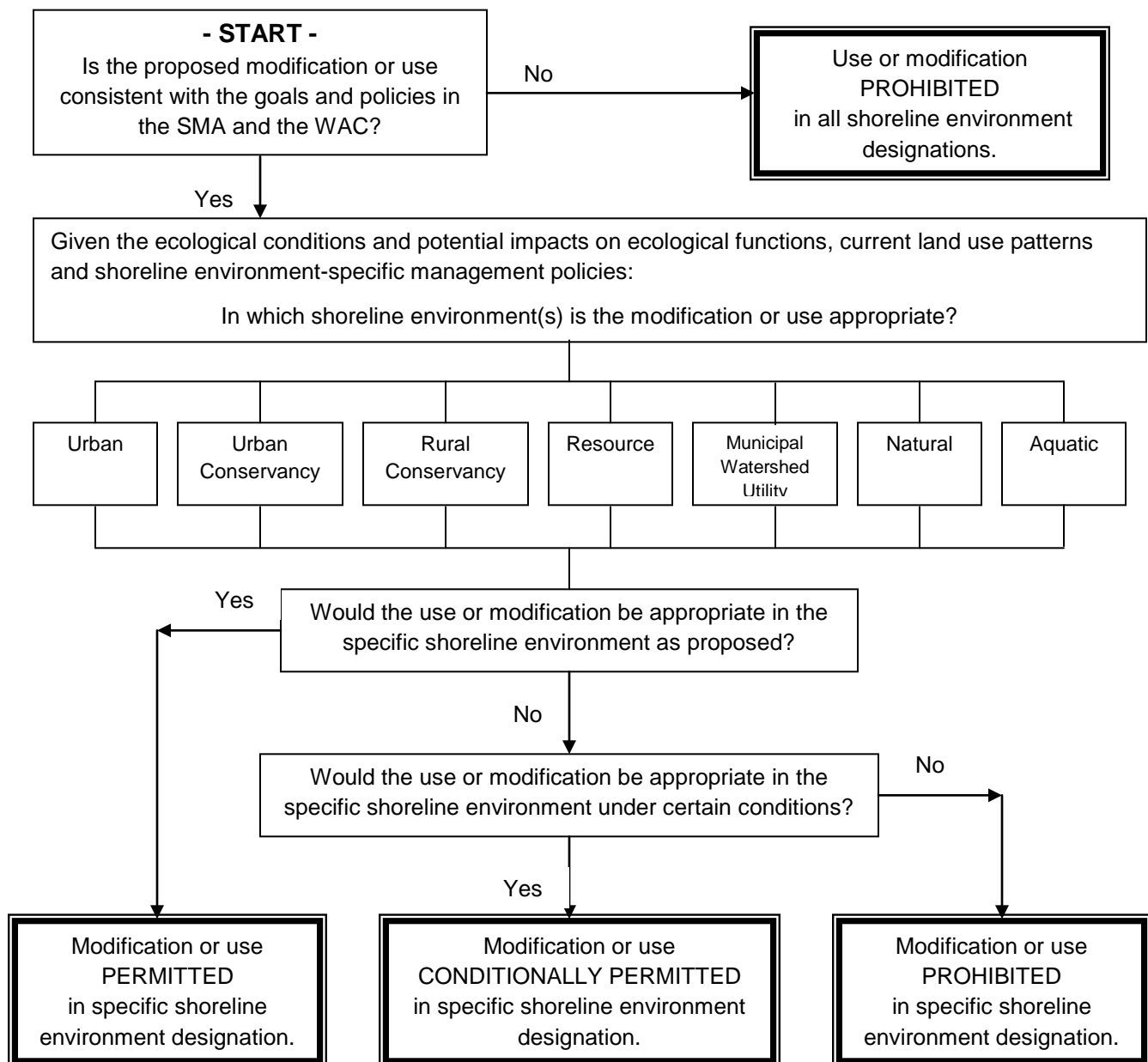


Figure 6. Analysis Process for Developing Shoreline Regulations

Utilizing the process described in Figure 6, the proposed SMP contains a set of uses and modifications that are either allowed, allowed subject to specific conditions tailored for the ecological needs of the specific shoreline environment, or prohibited outright in shoreline jurisdiction or only in specific environments due to ecological sensitivity. For each use and modification, the proposed SMP contains general standards to ensure compatibility with the SMA and environment-specific standards consistent with the shoreline environment's management criteria.

In Snohomish County, the most common uses in shoreline areas are single-family residential, farming and timber management. Common shoreline modifications associated with these uses include: bulkheads or other bank stabilization structures; flood protection structures; private docks; road construction and right-of-way maintenance; utility installation and easement maintenance; clearing, grading and fill; and shoreline habitat restoration and enhancement. In addition, key issues of public concern include sand and gravel mining, public access to shorelines, protection and maintenance of views, and dredging. These uses and modifications will be the focus of the regulatory analysis in this SEIS.

Table 8 (A through L) illustrates how the regulations would change due to a shift in any shoreline environment designation under the existing SMMP to any new designation under the proposed SMP. For example, a current designation of Suburban under the SMMP to a new designation of Rural Conservancy under the SMP may result in a change of permit requirements and/or design standards for a specific use or modification resulting in a relative regulatory shift to more restrictive regulations (+++), less restrictive regulations (---), or neutral shift (-0-) when regulations are similar. A shift from a use or modification as "permitted" under the SMMP to "permitted subject to a conditional use permit" under the SMP would be represented as more restrictive regulations (+++) in Table 8.

Table 8 also gives the estimated acreages shifting from one designation to another to show the relative magnitude of the proposed changes. The reported acreages should be considered as estimates and are shown to illustrate the relative impacts from a shift from the existing SMMP to the proposed SMP should the proposed SMP be adopted by the County. The acreages were calculated using GIS to compare the existing SMMP maps to the proposed SMP maps. The mapped polygons for the two programs do not overlap perfectly. The existing SMMP was adopted in 1974 prior to development of the County's GIS. Mapping accuracy has improved dramatically since then. In addition, the County's shoreline jurisdiction represents a dynamic system as shorelines and water levels change over time.

Table 8 includes total acreage estimates for each type of shift in relative regulatory intensity. Totals are reported for shorelands currently subject to regulation under the SMA, excluding areas newly added to County shoreline jurisdiction since the new areas will all be subject to more restrictive regulations as the SMP is applied for the first time in these new areas. Totals do not include the acreage covered by the waters of Puget Sound.

Agriculture

The SMA does not regulate on-going agricultural activities. Section 90.58.065 RCW says in part:

(1) The guidelines adopted by the department and master programs developed or amended by local governments according to RCW 90.58.080 shall not require modification of or limit agricultural activities occurring on agricultural lands. In jurisdictions where agricultural activities occur, master programs developed or amended after June 13, 2002, shall include provisions addressing new agricultural activities on land not meeting the definition of agricultural land, conversion of agricultural lands to other uses, and development not meeting the definition of agricultural activities. . . .

Agricultural activities are defined as:

(2)(a) "Agricultural activities" means agricultural uses and practices including, but not limited to: Producing, breeding, or increasing agricultural products; rotating and changing agricultural crops; allowing land used for agricultural activities to lie fallow in which it is plowed and tilled but left unseeded; allowing land used for agricultural activities to lie dormant as a result of adverse agricultural market conditions; allowing land used for agricultural activities to lie dormant because the land is enrolled in a local, state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment; maintaining, repairing, and replacing agricultural facilities, provided that the replacement facility is no closer to the shoreline than the original facility; and maintaining agricultural lands under production or cultivation;

Section 90.58.065(2)(d) RCW defines agricultural lands as, "those specific land areas on which agriculture activities are conducted". This means that the proposed SMP only applies to new agricultural activities on lands not previously used for agriculture, agricultural lands being converted to a non-agricultural use, activities that do not meet the definition of "agricultural activities" in RCW 90.58.065, and to non-agricultural development throughout shoreline jurisdiction. The GMA says that all critical area protection within shoreline jurisdiction is to be governed by the SMA. Subsection 36.70A.480(3) RCW says:

(b) Critical areas within shorelines of the state that have been identified as meeting the definition of critical areas as defined by RCW 36.70A.030(5), and that are subject to a shoreline master program adopted under applicable shoreline guidelines shall not be subject to the procedural and substantive requirements of this chapter, except as provided in subsection (6) of this section. Nothing in chapter 321, Laws of 2003 is intended to affect whether or to what extent agricultural activities, as defined in RCW 90.58.065, are subject to chapter 36.70A RCW.

Subsection (6) says:

(6) If a local jurisdiction's master program does not include land necessary for buffers for critical areas that occur within shorelines of the state, as authorized by RCW 90.58.030(2)(f), then the local jurisdiction shall continue to regulate those critical areas and their required buffers pursuant to RCW 36.70A.060(2).

Since the SMP does not apply to on-going agricultural activities, and since critical area protection in shoreline jurisdiction is governed solely by the SMP, on-going agricultural activities in shoreline jurisdiction are not subject to critical area regulations. In conclusion, the proposed SMP will not affect *on-going* agricultural activities in the county.

New agricultural activities on lands not previously used for agriculture are subject to the requirements in the proposed SMP and, as they are incorporated into the proposed SMP, new agricultural activities are subject to the critical area requirements. And because they fall outside of the definition of “agricultural activities”, this would also include *new* agricultural equipment and facilities, even if located on “agricultural lands”, and replacement agricultural facilities if located closer to the water than the original facility.

Agricultural activities are allowed in every shoreline environment in both the existing SMMP and the proposed SMP. Special provisions apply in the existing SMMP Conservancy designation and in the Natural designations in both the existing SMMP and proposed SMP to provide an increased level of protection for ecological functions. The main difference between the alternatives is in the handling of manure lagoons and livestock flood sanctuaries; the general regulations are the same, but the difference lies in where these uses are permitted, conditionally permitted or prohibited.

Table 8A shows that of the shorelands already regulated under the SMA:

- Approximately 4,456 acres will be subject to more restrictive regulations;
- An estimated 16,251 acres will be subject to less restrictive requirements – this is largely due to a shift from Conservancy to either Rural Conservancy or Resource resulting in a lifting of the requirement to obtain a conditional use permit for manure lagoons or livestock flood sanctuaries;
- Agricultural activities in 46,876 acres will not be affected by regulatory changes due to adoption of the proposed SMP.

Under the proposed SMP, approximately 8,273 acres of shorelands, including new shoreline jurisdictional areas, will be subject to more restrictive regulations governing new agricultural activities.

Table 8-A. Comparison of Regulations - AGRICULTURE

General Standards: The SMMP requires buffers sufficient to retard surface runoff and reduce siltation. The SMP applies buffers per critical areas SCC 30.62 or best management practices per 30.62A and B, depending upon which code applies. The general regulations for manure lagoons and livestock flood sanctuaries are the same under each of the three alternatives.

SMMP Shoreline Environment Designations (existing)	SMP Shoreline Environment Designations (proposed)						
	Urban	Urban Conservancy	Rural Conservancy	Resource	Municipal Watershed Utility	Natural	Aquatic
Urban	-0- (383)	+++ (0)	--- (68)	--- (67)	+++ (0)	+++ (0)	+++ (172)
Suburban	-0- (275)	+++ (27)	--- (1374)	--- (12)	+++ (0)	+++ (4)	+++ (2747)
Rural	+++ (278)	+++ (248)	-0- (4467)	-0- (40,751)	+++ (0)	+++ (1233)	+++ (1697)
Conservancy	--- (133)	--- (213)	--- (7656)	--- (6702)	+++ (0)	+++ (2666)	+++ (5341)
Natural	--- (10)	--- (0)	--- (6)	--- (10)	+++ (0)	-0- (1000)	+++ (490)
New areas not designated in the SMMP	+++ (62)	+++ (20)	+++ (1404)	+++ (1580)	+++ (1776 - lake) (476 – shoreland)	+++ (275)	+++ (1850)
Subtotal – excluding new areas and Aquatic	+++ (4456)		--- (16,251)		-0- (46,876)		
Subtotal – all shorelands	+++ (8273)		--- (16,251)		-0- (46,876)		
Total	+++ (22,346)		--- (16,251)		-0- (46,876)		

Key:

+++ means that the proposed SMP regulations are more restrictive than the existing SMMP regulations.

--- means that the proposed SMP regulations are less restrictive than the existing SMMP regulations.

-0- means that the proposed SMP regulations are the same as the existing SMMP regulations.

(10) number in parenthesis is the estimated number of acres shifting from a specific shoreline environment designation under the existing SMMP to a specific shoreline environment under the proposed SMP. Estimated acreages may not add to correct totals due to imperfectly overlapping polygons in the GIS data sets. Acreage does not include Puget Sound.

Docks

The SMA includes consideration of boating facilities including: marinas, yacht and boat clubs, boat ramps and other launch facilities, docks, piers, floats and mooring buoys. Permits for private docks accessory to single-family use are one of the more commonly requested shoreline permits in Snohomish County.

Regulations for docks in the existing SMMP and in the proposed SMP are similar on several key points:

- Both require joint use docks for commercial, industrial, new residential subdivisions, multifamily, or motels;
- Maximum dock length is the same in both programs;
- Covered docks may not be used as a dwelling unit or for moorage of a boat used as a dwelling unit;
- Setbacks from adjacent properties are similar;
- Docks, except for floating walkways, are not allowed in the Natural environment; and
- Permitted, conditional use, and use prohibitions are similar for the other environment designations (except as noted below).

The key differences between the existing SMMP and the proposed SMP are the new regulations in the proposed SMP. The new regulations address:

- Preference for use of community facilities or shared private facilities – permit applicants must show that community facilities are not available and that shared facilities are not feasible;
- Dock location and design must avoid critical underwater habitat and mitigate for light/shade impacts;
- Dock construction materials must be sensitive to water quality; and
- A CUP is required in the Urban Conservancy environment.

These differences account for the determination in Table 8B that the regulations are more restrictive under implementation of the proposed SMP.

The regulations are determined to be less restrictive when shifting from the Conservancy or Natural environments under the SMMP to new designations under the proposed SMP. Docks in the Conservancy designation (under the existing SMMP) requires a CUP on lakes and rivers, and are permitted in marine shorelines. Docks are prohibited in the Natural environment. A shift to proposed SMP designations where docks are permitted outright means the regulations are “less restrictive”.

In the Aquatic designation, the docks are permitted or conditionally permitted depending upon the adjacent shoreland designation.

Table 8-B. Comparison of Regulations - DOCKS							
General Standards: Regulations are similar except that the proposed SMP includes additional requirements for location, design and construction materials for docks.							
SMMP Shoreline Environment Designations (existing)	SMP Shoreline Environment Designations (proposed)						
	Urban	Urban Conservancy	Rural Conservancy	Resource	Municipal Watershed Utility	Natural	Aquatic
Urban	+++ (383)	+++ (0)	+++ (68)	+++ (67)	+++ (0)	+++ (0)	+++ (172)
Suburban	+++ (275)	+++ (27)	+++ (1374)	+++ (12)	+++ (0)	+++ (4)	+++ (2747)
Rural	+++ (278)	+++ (248)	+++ (4467)	+++ (40,751)	+++ (0)	+++ (1233)	+++ (1697)
Conservancy	--- (133)	+++ (213)	--- (7656)	--- (6702)	+++ (0)	+++ (2666)	--- (5341)
Natural	--- (10)	--- (0)	--- (6)	--- (10)	+++ (0)	-0- (1000)	--- (490)
New areas not designated in the SMMP	+++ (62)	+++ (20)	+++ (1404)	+++ (1580)	+++ (1776 - lake) (476 – shoreland)	+++ (275)	+++ (1850)
Subtotal – excluding new areas and Aquatic	+++ (52,066)		--- (14,517)		-0- (1000)		
Subtotal – all shorelands	+++ (55,883)		--- (14,517)		-0- (1000)		
Total	+++ (64,125)		--- (20,348)		-0- (1000)		
Key: +++ means that the proposed SMP regulations are more restrictive than the existing SMMP regulations. --- means that the proposed SMP regulations are less restrictive than the existing SMMP regulations. -0- means that the proposed SMP regulations are the same as the existing SMMP regulations. (10) number in parenthesis is the estimated number of acres shifting from a specific shoreline environment designation under the existing SMMP to a specific shoreline environment under the proposed SMP. Estimated acreages may not add to correct totals due to imperfectly overlapping polygons in the GIS data sets. Acreage does not include Puget Sound.							

Dredging and Dredge Spoil Disposal

Dredging used in this context is by definition an in-water activity occurring below the ordinary high water mark. Thus, this activity would only occur in the Aquatic shoreline environment designation under the proposed SMP. Spoil disposal may be proposed either on land or in the water. Table 8B compares the regulations for dredging and dredge spoil disposal between the existing SMMP and the proposed SMP. Dredging regulations are assessed in the column under the Aquatic SMP designation while spoil disposal is addressed under all SMP designations. In the proposed SMP, dredging is only allowed under limited circumstances:

- Maintenance of existing navigation channels (same as existing SMMP)
- As necessary to construct or maintain marinas, boat ramps or other boat launch facilities (existing SMP refers more generally to public recreation opportunities);
- Flood protection as per the regulations in the Flood Protection provisions of the SMP (existing SMP refers more generally to public safety);
- In conjunction with ecological restoration or enhancement projects (same as existing SMMP); or
- In conjunction with mining activities – in-water mining is restricted to circumstances similar to those for dredging.

In the existing SMMP, dredging is further limited in the Conservancy and Natural environments. In Conservancy, dredging is only allowed for one purpose – maintenance of existing navigation channels and facilities – and deposit of spoils is only allowed at approved DNR sites. Dredging and spoil disposal is prohibited in the Natural environment. The proposed SMP relaxes this requirement in the Natural environment slightly to also allow these activities in conjunction with habitat restoration and/or enhancement projects.

When Table 8C shows that the regulations are more restrictive under the proposed SMP it is due to more stringent regulations requiring conditional use permits (CUP) where CUPs were not required before. When regulations are shown to be relaxed, the change is due to allowing dredging or spoil disposal for a wider range of project types as listed above. In the Natural environment, dredging and spoil disposal is prohibited in the existing SMMP, but conditionally permitted by the proposed SMP but only when in conjunction with habitat restoration and enhancement projects. The proposed SMP requires a CUP for all dredging or spoil disposal projects in every shoreline environment designation.

If the proposed SMP is adopted, dredging and spoil disposal will be subject to more restrictive regulations in over 61,246 acres of shoreline jurisdiction because a CUP will be required. Dredging and spoil disposal will be allowed under a broader range of circumstances for 24,227 acres of shoreline jurisdiction, however, a CUP will be required. The compliance standard is “no net loss” of shoreline ecological functions. This allows the county to balance the goals of the SMA to support water-dependent activities and public access to shorelines with the need for ecological protection and shoreline habitat restoration [WAC173-26-186(9)].

Table 8-C. Comparison of Regulations - DREDGING AND DREDGE SPOIL DISPOSAL

General Standards: Dredging is allowed only under similar limited circumstances in both the SMMP and the SMP. The SMP includes specific types of sensitive ecological areas where dredging is further restricted. The SMP requires conditional use permits in all environments – no longer permitted outright. The SMMP requires specific information be provided with permit applications.

SMMP Shoreline Environment Designations (existing)	SMP Shoreline Environment Designations (proposed)						
	Urban	Urban Conservancy	Rural Conservancy	Resource	Municipal Watershed Utility	Natural	Aquatic
Urban	+++ (383)	+++ (0)	+++ (68)	+++ (67)	+++ (0)	+++ (0)	+++ (172)
Suburban	+++ (275)	+++ (27)	+++ (1374)	+++ (12)	+++ (0)	+++ (4)	+++ (2747)
Rural	+++ (278)	+++ (248)	+++ (4467)	+++ (40,751)	+++ (0)	+++ (1233)	+++ (1697)
Conservancy	--- (133)	--- (213)	--- (7656)	--- (6702)	+++ (0)	--- (2666)	--- (5341)
Natural	--- (10)	--- (0)	--- (6)	--- (10)	+++ (0)	--- (1000)	--- (490)
New areas not designated in the SMMP	+++ (62)	+++ (20)	+++ (1404)	+++ (1580)	+++ (1776 - lake) (476 – shoreland)	+++ (275)	+++ (1850)
Subtotal – excluding new areas and Aquatic	+++ (49,187)		--- (18,396)		-0- (0)		
Subtotal – all shorelands	+++ (53,004)		--- (18,396)		-0- (0)		
Total	+++ (61,246)		--- (24,227)		-0- (0)		

Key:

+++ means that the proposed SMP regulations are more restrictive than the existing SMMP regulations.

--- means that the proposed SMP regulations are less restrictive than the existing SMMP regulations.

-0- means that the proposed SMP regulations are the same as the existing SMMP regulations.

(10) number in parenthesis is the estimated number of acres shifting from a specific shoreline environment designation under the existing SMMP to a specific shoreline environment under the proposed SMP. Estimated acreages may not add to correct totals due to imperfectly overlapping polygons in the GIS data sets. Acreage does not include Puget Sound.

Fill

The general standards regulating use of fill are similar between the existing SMMP and the proposed SMP. Fill is only allowed in conjunction with uses or modifications otherwise permitted in shoreline jurisdiction. The proposed SMP also requires that the use of fill be minimized. Both programs accommodate the use of fill in conjunction with habitat restoration or mitigation.

Fill will continue to be permitted when Urban or Suburban SMMP environments are shifted to either the Urban, Rural Conservancy or Resource environments under the SMP.

Under the existing SMMP, fill is restricted in the Rural environment solely for the purpose of flood-proofing structures. Fill is allowed for a broader range of uses under the proposed SMP but subject to a conditional use permit in the Urban Conservancy, Natural and Aquatic environments.

The existing SMMP prohibits fill within 100 feet of the ordinary high water mark or within associated wetlands when in the Conservancy environment. The proposed SMP restricts the use of fill in the riparian area up to 150 feet from the ordinary high water mark but provides some exceptions for single family development and restoration projects.

In the Natural environment, the existing SMMP prohibits the use of fill. The proposed SMP would allow fill in the Natural environment but only in conjunction with a restoration and enhancement project.

Fill regulations are more flexible under the proposed SMP. Fill can be used for more types of uses than is currently allowed in the Rural, Conservancy and Natural environments under the existing SMMP. This flexibility implements the goals of the SMA to support water-dependent uses, essential public facilities for transportation and utilities, public access, single-family development and habitat restoration projects. The proposed SMP would require compliance with the “no net loss” standard for ecological functions and require conditional use permits for all proposed fill (except for restoration projects) in the Urban Conservancy, Natural and Aquatic environments.

Table 8-D. Comparison of Regulations - FILL							
General Standards: Standards are similar in both the SMMP and the SMP. Fills are allowed only in conjunction with approved shoreline project. The SMP requires that use and volume of fill be the minimum necessary, alternatives preferred.							
SMMP Shoreline Environment Designations (existing)	SMP Shoreline Environment Designations (proposed)						
	Urban	Urban Conservancy	Rural Conservancy	Resource	Municipal Watershed Utility	Natural	Aquatic
Urban	-0- (383)	+++ (0)	-0- (68)	-0- (67)	+++ (0)	+++ (0)	+++ (172)
Suburban	-0- (275)	+++ (27)	-0- (1374)	-0- (12)	+++ (0)	+++ (4)	+++ (2747)
Rural	--- (278)	--- (248)	--- (4467)	--- (40,751)	+++ (0)	--- (1233)	--- (1697)
Conservancy	--- (133)	--- (213)	--- (7656)	--- (6702)	+++ (0)	--- (2666)	--- (5341)
Natural	--- (10)	--- (0)	--- (6)	--- (10)	+++ (0)	--- (1000)	--- (490)
New areas not designated in the SMMP	+++ (62)	+++ (20)	+++ (1404)	+++ (1580)	+++ (1776 - lake) (476 – shoreland)	+++ (275)	+++ (1850)
Subtotal – excluding new areas and Aquatic	+++ (31)		--- (65,373)		-0- (2179)		
Subtotal – all shorelands	+++ (3848)		--- (65,373)		-0- (2179)		
Total	+++ (10,393)		--- (72, 901)		-0- (2719)		
Key: +++ means that the proposed SMP regulations are more restrictive than the existing SMMP regulations. --- means that the proposed SMP regulations are less restrictive than the existing SMMP regulations. -0- means that the proposed SMP regulations are the same as or equivalent to the existing SMMP regulations. (10) number in parenthesis is the estimated number of acres shifting from a specific shoreline environment designation under the existing SMMP to a specific shoreline environment under the proposed SMP. Estimated acreages may not add to correct totals due to imperfectly overlapping polygons in the GIS data sets. Acreage does not include Puget Sound.							

Flood protection measures

The general standards regulating use of flood protection measures are similar between the existing SMMP and the proposed SMP. Both alternatives require that flood protection projects be consistent with the county's flood hazard management plan, utilize non-structural methods whenever possible, conduct analysis of the hydraulic characteristics and preserve the existing ecological functions and processes. The proposed SMP further limits the use of structural flood protection structures only in circumstances to protect existing primary structures; new or existing public utilities, roads or bridges; designated farmlands; or ecological restoration projects.

The existing SMMP permits flood protection measures in all environments provided that a conditional use permit is obtained when in the Natural environment. The proposed SMP permits non-structural flood protection measures in all environments but requires a conditional use permit in the Aquatic environment unless it is part of an ecological restoration project. Structural solutions are also permitted in every environment but only when in conjunction with projects solely devoted to ecological restoration. Otherwise, use of structural flood protection measures requires documented necessity in a geotechnical report and, when located in the Urban Conservancy, Natural or Aquatic environments, a conditional use permit is also required.

The existing SMMP allows flood protection measures in the Natural environment subject to a conditional use permit but only to protect existing development. The proposed SMP permits flood protection measures outright in the Natural environment when necessary as part of an ecological restoration project. Otherwise a conditional use permit is required when flood protection is needed to protect specific types of development.

Table 8-E. Comparison of Regulations – FLOOD PROTECTION MEASURES							
General Standards: Standards are similar in both the SMMP and the SMP. The proposed SMP further limits the use of structural flood protection structures only in circumstances to protect existing primary structures; new or existing public utilities, roads or bridges; designated farmlands; or ecological restoration projects.							
SMMP Shoreline Environment Designations (existing)	SMP Shoreline Environment Designations (proposed)						
	Urban	Urban Conservancy	Rural Conservancy	Resource	Municipal Watershed Utility	Natural	Aquatic
Urban	-0- (383)	+++ (0)	-0- (68)	-0- (67)	+++ (0)	+++ (0)	+++ (172)
Suburban	-0- (275)	+++ (27)	-0- (1374)	-0- (12)	+++ (0)	+++ (4)	+++ (2747)
Rural	-0- (278)	+++ (248)	-0- (4467)	-0- (40,751)	+++ (0)	+++ (1233)	+++ (1697)
Conservancy	-0- (133)	+++ (213)	-0- (7656)	-0- (6702)	+++ (0)	+++ (2666)	+++ (5341)
Natural	--- (10)	--- (0)	--- (6)	--- (10)	+++ (0)	--- (1000)	--- (490)
New areas not designated in the SMMP	+++ (62)	+++ (20)	+++ (1404)	+++ (1580)	+++ (1776 - lake) (476 – shoreland)	+++ (275)	+++ (1850)
Subtotal – excluding new areas and Aquatic	+++ (4391)		--- (1026)		-0- (62,166)		
Subtotal – all shorelands	+++ (8208)		--- (1026)		-0- (62,166)		
Total	+++ (21,791)		--- (1516)		-0- (62,166)		
Key: +++ means that the proposed SMP regulations are more restrictive than the existing SMMP regulations. --- means that the proposed SMP regulations are less restrictive than the existing SMMP regulations. -0- means that the proposed SMP regulations are the same as or equivalent to the existing SMMP regulations. (10) number in parenthesis is the estimated number of acres shifting from a specific shoreline environment designation under the existing SMMP to a specific shoreline environment under the proposed SMP. Estimated acreages may not add to correct totals due to imperfectly overlapping polygons in the GIS data sets. Acreage does not include Puget Sound.							

Forestry

Commercial forest practices are typically regulated by the state Department of Natural Resources and the provisions in the Forest Practices Act [RCW 76.09]. The County has authority over forest practices on lands platted after 1960, lands being converted, or likely to be converted, out of forestry use into another use, or when commercial harvest is proposed within 200 feet of a shoreline of statewide significance and the harvest is expected to remove in excess of 30% of the merchantable timber volume in any ten year period [RCW 90.58.150 and WAC 173-26-241(3)(e)]. The proposed SMP contains provisions to ensure that when forest lands are converted to another use, there will be no net loss of shoreline ecological functions or significant adverse impacts to other shoreline uses, resources and values such as navigation, recreation and public access.

Under the proposed SMP, where lands are to be converted to another use, timber removal, clearing and grading are regulated by the following: 1) the standards in the proposed SMP for the specific use; 2) the critical area regulations incorporated into the proposed SMP; and 3) the proposed SMP's vegetation management standards. Forest practices in the more sensitive shoreline environments of Urban Conservancy, Natural and Aquatic would be allowed subject to a conditional use permit and provided that:

- Timber removal is the minimum necessary to accommodate an approved shoreline use;
- Timber removal is necessary to control spread of disease or to restore conditions after a natural disaster such as fire, wind storm, insect attack or disease; or
- The removal of submerged logs or log jams is necessary to protect public safety.

Under the existing SMP, conditional use permits are required for forest practices in the Urban and Suburban environments. This requirement is relaxed in the proposed SMP. Where the Natural environment (under the existing SMMP) would be reassigned to Aquatic (under the proposed SMP), a provision to remove submerged logs and log jams has been added to the proposed SMP, however, a conditional use permit would now be required.

Forest practices are the primary activities in the Municipal Watershed Utility environment along with recreation and operation of the dam and reservoir. This area around Spada Lake has not been regulated under the SMA in the past. Because this area will now be subject to regulation under the SMA, the regulatory impact has been identified as "more restrictive" in Table 8F. However, the proposed SMP contains regulations similar to those that already govern commercial forest practices common in this area – these activities will be required to comply with the Forest Practices Act [RCW 76.09] and to obtain a conditional use permit from the County if the proposed harvest exceeds the conditions described in WAC 173-26-241(3)(e).

Regulations for log storage are located under "Ports and Industry" in the existing SMMP. These regulations have been moved to the "Forestry" section of the proposed SMP with only minor

changes to the regulatory content. In-water log storage is discouraged to prevent ecological damage to water quality and aquatic beds and to reduce potential impacts to navigation.

Table 8-F. Comparison of Regulations – FORESTRY

General Standards: Standards are similar in both the SMMP and the SMP requiring compliance with the FPA [RCW 76.09] and the conditional use permit requirement of WAC 173-26-241(3)(e). The main difference is a shift from conditional use permit requirements from the Urban and Suburban environments under the SMMP to the Urban conservancy, Natural and Aquatic environments under the SMP.

SMMP Shoreline Environment Designations (existing)	SMP Shoreline Environment Designations (proposed)						
	Urban	Urban Conservancy	Rural Conservancy	Resource	Municipal Watershed Utility	Natural	Aquatic
Urban	--- (383)	+++ (0)	--- (68)	--- (67)	+++ (0)	+++ (0)	+++ (172)
Suburban	--- (275)	+++ (27)	--- (1374)	--- (12)	+++ (0)	+++ (4)	+++ (2747)
Rural	-0- (278)	+++ (248)	-0- (4467)	-0- (40,751)	+++ (0)	+++ (1233)	+++ (1697)
Conservancy	-0- (133)	+++ (213)	-0- (7656)	-0- (6702)	+++ (0)	+++ (2666)	+++ (5341)
Natural	--- (10)	--- (0)	--- (6)	--- (10)	+++ (0)	+++ (1000)	--- (490)
New areas not designated in the SMMP	+++ (62)	+++ (20)	+++ (1404)	+++ (1580)	+++ (1776 - lake) (476 – shoreland)	+++ (275)	+++ (1850)
Subtotal – excluding new areas and Aquatic	+++ (5391)		--- (2205)		-0- (59,987)		
Subtotal – all shorelands	+++ (9208)		--- (2205)		-0- (59,987)		
Total	+++ (22,791)		--- (2695)		-0- (59,987)		

Key:

+++ means that the proposed SMP regulations are more restrictive than the existing SMMP regulations.

--- means that the proposed SMP regulations are less restrictive than the existing SMMP regulations.

-0- means that the proposed SMP regulations are the same as or equivalent to the existing SMMP regulations.

(10) number in parenthesis is the estimated number of acres shifting from a specific shoreline environment designation under the existing SMMP to a specific shoreline environment under the proposed SMP. Estimated acreages may not add to correct totals due to imperfectly overlapping polygons in the GIS data sets. Acreage does not include Puget Sound.

Mining

Mining in Snohomish County is limited to areas identified in the county's comprehensive plan, mineral resources overlay (MRO) to the future land use map (FLUM). By policy in the County's comprehensive plan, lands designated as Natural or Conservancy under the existing SMMP are excluded from the MRO. Review of the FLUM shows minimal overlap between other shoreline environments and the MRO, thus mining activities will be very limited within shoreline jurisdiction.

The existing SMMP allows mining under limited circumstances in the Urban, Rural and Conservancy environments. Under the proposed SMP commercial mining for the sole purpose of obtaining resources for commercial sale or processing is prohibited in shoreline jurisdiction. Non-commercial mining activities are allowed subject to a conditional use permit and only for the following purposes:

- Ecological restoration and enhancement projects;
- Flood protection in accordance with an approved flood hazard management plan;
- Emergency operations;
- Removal of mineral resources deposited on farmlands after flood events; or
- Dredging related to navigation, boating facilities or utility installation and maintenance.

Where regulations are identified as "more restrictive" in Table 8G, it is largely the result of restrictions in the proposed SMP limiting the types of mining allowed and requiring conditional use permits or due to new application of the SMP to lands not previously regulated under the SMA. The proposed SMP appears to be "less restrictive" in areas where mining is prohibited under the existing SMMP but would be allowed under the proposed SMP subject to the limited circumstances described above and a CUP.

Table 8-G. Comparison of Regulations – MINING

General Standards: The SMP limits the types of mining activities allowed in any environment except that mining related to forest practices is allowed in the Resource and MWU environments. The SMMP allows mining in the Urban, Rural and Conservancy environments but not in the Suburban or Natural environments. Both programs require ecological protection and geotechnical analysis.

SMMP Shoreline Environment Designations (existing)	SMP Shoreline Environment Designations (proposed)						
	Urban	Urban Conservancy	Rural Conservancy	Resource	Municipal Watershed Utility	Natural	Aquatic
Urban	+++ (383)	+++ (0)	+++ (68)	+++ (67)	+++ (0)	+++ (0)	+++ (172)
Suburban	--- (275)	--- (27)	--- (1374)	--- (12)	+++ (0)	--- (4)	--- (2747)
Rural	+++ (278)	+++ (248)	+++ (4467)	+++ (40,751)	+++ (0)	+++ (1233)	+++ (1697)
Conservancy	+++ (133)	+++ (213)	+++ (7656)	+++ (6702)	+++ (0)	+++ (2666)	+++ (5341)
Natural	--- (10)	--- (0)	--- (6)	--- (10)	+++ (0)	--- (1000)	--- (490)
New areas not designated in the SMMP	+++ (62)	+++ (20)	+++ (1404)	+++ (1580)	+++ (1776 - lake) (476 – shoreland)	+++ (275)	+++ (1850)
Subtotal – excluding new areas and Aquatic	+++ (64,865)		--- (2718)		-0- (0)		
Subtotal – all shorelands	+++ (68,682)		--- (2718)		-0- (0)		
Total	+++ (79,518)		--- (5955)		-0- (0)		

Key:

+++ means that the proposed SMP regulations are more restrictive than the existing SMMP regulations.

--- means that the proposed SMP regulations are less restrictive than the existing SMMP regulations.

-0- means that the proposed SMP regulations are the same as or equivalent to the existing SMMP regulations.

(10) number in parenthesis is the estimated number of acres shifting from a specific shoreline environment designation under the existing SMMP to a specific shoreline environment under the proposed SMP. Estimated acreages may not add to correct totals due to imperfectly overlapping polygons in the GIS data sets. Acreage does not include Puget Sound.

Public Access

The SMA seeks to increase public access to publicly owned shorelines [RCW90.58.020(5)].

The existing SMMP requires provision of public access for all shoreline projects which require a shoreline substantial development permit or a conditional use permit unless specific conditions exist which would result in safety hazards, unmitigatable environmental damage or use conflicts, or disproportionate cost of access provision relative to the long term cost of the development. The proposed SMP would require provision of public access only for new non-water oriented recreation, commercial, or industrial use proposals or for new subdivisions with more than four residential parcels (as required by WAC 173-26-221(4)(d)(iii)). The proposed SMP also includes exceptions to the public access requirements similar to those in the existing SMMP.

The physical standards for the provision of public access are similar under the existing SMMP and the County's subdivision code (SCC 30.41A.230) and the proposed SMP. Neither program contains environment-specific regulations related to public access.

Because the proposed SMP does not require consideration of public access for all shoreline substantial development permits and conditional use permits, and only requires public access for a limited list of development types, the proposed SMP is less restrictive than the existing SMMP with respect to the public access regulations.

Road Construction and Maintenance

Road construction in shoreline areas is allowed only when no alternative location is feasible. Transportation facilities should be designed to prevent disruption to hydrologic processes and ecological functions. The existing SMMP and the proposed SMP contain similar standards and requirements. Under the proposed SMP, road work considered to be normal maintenance and repair is allowed in shoreline jurisdiction subject to the critical area provisions in SCC 30.62A.520 requiring use of best management practices to mitigate impacts during the work.

New and enlarged transportation facilities are required to include public access. This public access requirement is new and accounts for the assessment that the regulations are more restrictive under the proposed SMP when the regulation shift might otherwise be considered neutral. An example would be the shift from Urban under the existing SMMP to Urban, Rural Conservancy or Resource under the proposed SMP.

Under the existing SMMP, principal use commercial parking lots are prohibited in the Natural, Conservancy and Rural environments. Parking incidental to an approved shoreline use is permitted or conditionally permitted in all shoreline environments except Aquatic under the proposed SMP. These parking provisions explain the assessment that the proposed SMP is less restrictive than the existing SMMP in some environments.

The Proposed SMP contains the following provisions:

- Roads, bridges and parking facilities are permitted in the Urban, Rural Conservancy and Resource environments.
- A conditional use permit is required in the Urban Conservancy and MWU environments, except that transportation facilities directly related to forest practices permits would be permitted outright in the MWU.
- Roads and bridges are prohibited in the Natural environment and bridges require a conditional use permit in the Aquatic environment.

Table 8-H. Comparison of Regulations – ROAD CONSTRUCTION AND MAINTENANCE							
General Standards: Under the proposed SMP, road work considered to be normal maintenance and repair is allowed in shoreline jurisdiction subject to the critical area provisions in SCC 30.62A.520 requiring use of best management practices to mitigate impacts during the work. New and enlarged transportation facilities are required to include public access.							
SMMP Shoreline Environment Designations (existing)	SMP Shoreline Environment Designations (proposed)						
	Urban	Urban Conservancy	Rural Conservancy	Resource	Municipal Watershed Utility	Natural	Aquatic
Urban	+++ (383)	+++ (0)	+++ (68)	+++ (67)	+++ (0)	+++ (0)	+++ (172)
Suburban	--- (275)	+++ (27)	--- (1374)	--- (12)	+++ (0)	+++ (4)	+++ (2747)
Rural	--- (278)	--- (248)	--- (4467)	--- (40,751)	+++ (0)	+++ (1233)	+++ (1697)
Conservancy	--- (133)	--- (213)	--- (7656)	--- (6702)	+++ (0)	--- (2666)	+++ (5341)
Natural	--- (10)	--- (0)	--- (6)	--- (10)	+++ (0)	--- (1000)	--- (490)
New areas not designated in the SMMP	+++ (62)	+++ (20)	+++ (1404)	+++ (1580)	+++ (1776 - lake) (476 – shoreland)	+++ (275)	+++ (1850)
Subtotal – excluding new areas and Aquatic	+++ (1782)		--- (65,801)		-0- (0)		
Subtotal – all shorelands	+++ (5599)		--- (65,801)		-0- (0)		
Total	+++ (19,182)		--- (66,291)		-0- (0)		

Key:

+++ means that the proposed SMP regulations are more restrictive than the existing SMMP regulations.

--- means that the proposed SMP regulations are less restrictive than the existing SMMP regulations.

-0- means that the proposed SMP regulations are the same as or equivalent to the existing SMMP regulations.

(10) number in parenthesis is the estimated number of acres shifting from a specific shoreline environment designation under the existing SMMP to a specific shoreline environment under the proposed SMP. Estimated acreages may not add to correct totals due to imperfectly overlapping polygons in the GIS data sets. Acreage does not include Puget Sound.

Shoreline Bank Stabilization (including Bulkheads)

The updates to WAC 173-26 discourage the use of bulkheads and other hard armoring structural techniques because of the disruption they cause to natural shoreline ecological functions and processes. Bank stabilization is only allowed under limited circumstances. The existing SMMP allows bank stabilization to protect existing development and agricultural lands and to prevent serious impairment of channel functions. The proposed SMP allows bank stabilization only to protect existing primary structures; new and existing utilities, roads and bridges; agricultural land and ecological restoration projects. When stabilization is allowed, non-structural measures are preferred over structural solutions unless a geotechnical report indicates that structural measures are necessary.

Both the existing SMMP and the proposed SMP require that the use, design, location and construction of shoreline stabilization measures result in minimal impacts to shoreline ecological functions. The existing SMMP permits bank stabilization in all environments provided that special conditions apply in the Natural environment. The proposed SMP permits only non-structural bank stabilization outright everywhere except in the Natural environment where a conditional use permit is required. Structural measures require a conditional use permit in all environments unless they are an integral component of an ecological restoration project.

Under the proposed SMP the Natural environment appears to be less restrictive than the existing SMMP because of the provision to conditionally allow bank stabilization to protect new transportation and utility facilities and for ecological restoration projects.

Table 8-I. Comparison of Regulations – SHORELINE BANK STABILIZATION

General Standards: Bank stabilization is only allowed under limited circumstances. When stabilization is allowed, non-structural measures are preferred over structural solutions unless a geotechnical report indicates that structural measures are necessary. Both the existing SMMP and the proposed SMP require that the use, design, location and construction of shoreline stabilization measures result in minimal impacts to shoreline ecological functions.

SMMP Shoreline Environment Designations (existing)	SMP Shoreline Environment Designations (proposed)						
	Urban	Urban Conservancy	Rural Conservancy	Resource	Municipal Watershed Utility	Natural	Aquatic
Urban	+++ (383)	+++ (0)	+++ (68)	+++ (67)	+++ (0)	+++ (0)	+++ (172)
Suburban	+++ (275)	+++ (27)	+++ (1374)	+++ (12)	+++ (0)	+++ (4)	+++ (2747)
Rural	+++ (278)	+++ (248)	+++ (4467)	+++ (40,751)	+++ (0)	+++ (1233)	+++ (1697)
Conservancy	+++ (133)	+++ (213)	+++ (7656)	+++ (6702)	+++ (0)	+++ (2666)	+++ (5341)
Natural	--- (10)	--- (0)	--- (6)	--- (10)	+++ (0)	--- (1000)	--- (490)
New areas not designated in the SMMP	+++ (62)	+++ (20)	+++ (1404)	+++ (1580)	+++ (1776 - lake) (476 – shoreland)	+++ (275)	+++ (1850)
Subtotal – excluding new areas and Aquatic	+++ (66,557)		--- (1026)		-0- (0)		
Subtotal – all shorelands	+++ (70,374)		--- (1026)		-0- (0)		
Total	+++ (83,957)		--- (1516)		-0- (0)		

Key:

+++ means that the proposed SMP regulations are more restrictive than the existing SMMP regulations.

--- means that the proposed SMP regulations are less restrictive than the existing SMMP regulations.

-0- means that the proposed SMP regulations are the same as or equivalent to the existing SMMP regulations.

(10) number in parenthesis is the estimated number of acres shifting from a specific shoreline environment designation under the existing SMMP to a specific shoreline environment under the proposed SMP. Estimated acreages may not add to correct totals due to imperfectly overlapping polygons in the GIS data sets. Acreage does not include Puget Sound.

Shoreline Habitat Restoration

The updated version of WAC 173-26 promotes shoreline habitat restoration and enhancement. Restoration and enhancement projects are allowed in all shoreline environments and all shoreline modifications are permitted when in support of these projects. The existing SMMP and the proposed SMP contain similar regulations for habitat enhancement and restoration. Restoration projects shall not interfere with public access or navigation.

The existing SMMP also addresses beach enhancement for recreational purposes; the proposed SMP does not focus only on ecological and habitat restoration goals. For this reason, the proposed SMP appears more restrictive than the existing SMMP except that the existing SMMP requires a conditional use permit for restoration or enhancement projects, including enhancement for recreational purposes, in the Natural Environment. Under the proposed SMP, restoration and enhancement is limited to ecological and habitat projects which are permitted in all environments, including the Natural environment.

Table 8-J. Comparison of Regulations – SHORELINE HABITAT RESTORATION							
General Standards: The existing SMMP and the proposed SMP contain similar regulations for habitat enhancement and restoration. The existing SMMP also addresses beach enhancement for recreational purposes; the proposed SMP does not focusing only on ecological and habitat restoration goals.							
SMMP Shoreline Environment Designations (existing)	SMP Shoreline Environment Designations (proposed)						
	Urban	Urban Conservancy	Rural Conservancy	Resource	Municipal Watershed Utility	Natural	Aquatic
Urban	+++ (383)	+++ (0)	+++ (68)	+++ (67)	+++ (0)	+++ (0)	+++ (172)
Suburban	+++ (275)	+++ (27)	+++ (1374)	+++ (12)	+++ (0)	+++ (4)	+++ (2747)
Rural	+++ (278)	+++ (248)	+++ (4467)	+++ (40,751)	+++ (0)	+++ (1233)	+++ (1697)
Conservancy	+++ (133)	+++ (213)	+++ (7656)	+++ (6702)	+++ (0)	+++ (2666)	+++ (5341)
Natural	--- (10)	--- (0)	--- (6)	--- (10)	+++ (0)	--- (1000)	--- (490)
New areas not designated in the SMMP	+++ (62)	+++ (20)	+++ (1404)	+++ (1580)	+++ (1776 - lake) (476 – shoreland)	+++ (275)	+++ (1850)
Subtotal – excluding new areas and Aquatic	+++ (66,557)		--- (1026)		-0- (0)		

Subtotal – all shorelands	+++ (70,374)	--- (1026)	-0- (0)
Total	+++ (83,957)	--- (1516)	-0- (0)

Key:

+++ means that the proposed SMP regulations are more restrictive than the existing SMMP regulations.
 --- means that the proposed SMP regulations are less restrictive than the existing SMMP regulations.
 -0- means that the proposed SMP regulations are the same as or equivalent to the existing SMMP regulations.
 (10) number in parenthesis is the estimated number of acres shifting from a specific shoreline environment designation under the existing SMMP to a specific shoreline environment under the proposed SMP. Estimated acreages may not add to correct totals due to imperfectly overlapping polygons in the GIS data sets. Acreage does not include Puget Sound.

Single-Family Residential

The SMA supports single-family residential use in shoreline jurisdiction. This use along with accessory structures is typically allowed in all upland shoreline environments. The exception is that single-family use is not allowed in the Municipal Watershed Utility environment under the proposed SMP. Uses in the MWU are limited to hydro-electric utility, water reservoir, recreation, wildlife habitat and forestry as per federal licensing requirements for Culmback Dam and the Jackson Hydroelectric Project.

Subdivision of land for new single-family lots is regulated under the existing SMMP. Such subdivisions are prohibited in the Natural environment and minimum lot sizes are restricted in the Conservancy and Rural environments. The proposed SMP does not include similar provisions limiting subdivisions for residential use. However, residential subdivisions creating more than four residential lots are required to provide public access to the shoreline, utilize lot clustering techniques to distance homes and impervious surfaces away from the water and comply with the “no net loss” standard for ecological functions. Lot sizes are subject to the underlying zoning. Buffers of 150 feet replace setback requirements of 25 to 100 feet. In most cases, the increased buffers, and the cluster and public access requirements result in the determination that the proposed SMP is more restrictive than the existing SMMP.

The proposed SMP addresses various types of residential structures: single-family houses, duplex, townhouse, multi-family structures, mobile home parks, houseboats and floating homes. These uses are restricted by shoreline environment and by underlying zoning. Houseboats, which are defined as live-aboard vessels having integral propulsion systems, are only allowed in the Aquatic environment within marinas, subject to marina requirements, and in other off-shore areas subject to a lease or permission from the appropriate state agency. Floating homes are not allowed.

Table 8-K. Comparison of Regulations – SINGLE-FAMILY RESIDENTIAL

General Standards: Single-family use is allowed in all environments except the MWU. The proposed SMP imposes fewer restrictions on subdivision of land into new residential lots in terms of where they are allowed. Instead, the proposed SMP focuses on the subdivision layout, public access and ecological protection. Both the existing SMMP and the proposed SMP require that disruption of the natural contours and removal of the native vegetation be minimized. Setbacks or buffers increase from 25-100 feet under the existing SMMP to 150 feet under the proposed SMP.

SMMP Shoreline Environment Designations (existing)	SMP Shoreline Environment Designations (proposed)						
	Urban	Urban Conservancy	Rural Conservancy	Resource	Municipal Watershed Utility	Natural	Aquatic
Urban	+++ (383)	+++ (0)	+++ (68)	+++ (67)	+++ (0)	+++ (0)	+++ (172)
Suburban	+++ (275)	+++ (27)	+++ (1374)	+++ (12)	+++ (0)	+++ (4)	+++ (2747)
Rural	+++ (278)	+++ (248)	+++ (4467)	+++ (40,751)	+++ (0)	+++ (1233)	+++ (1697)
Conservancy	+++ (133)	+++ (213)	+++ (7656)	+++ (6702)	+++ (0)	+++ (2666)	+++ (5341)
Natural	--- (10)	--- (0)	--- (6)	--- (10)	+++ (0)	--- (1000)	--- (490)
New areas not designated in the SMMP	+++ (62)	+++ (20)	+++ (1404)	+++ (1580)	+++ (1776 - lake) (476 – shoreland)	+++ (275)	+++ (1850)
Subtotal – excluding new areas and Aquatic	+++ (66,557)		--- (1026)		-0- (0)		
Subtotal – all shorelands	+++ (70,374)		--- (1026)		-0- (0)		
Total	+++ (83,957)		--- (1516)		-0- (0)		

Key:

+++ means that the proposed SMP regulations are more restrictive than the existing SMMP regulations.

--- means that the proposed SMP regulations are less restrictive than the existing SMMP regulations.

-0- means that the proposed SMP regulations are the same as or equivalent to the existing SMMP regulations.

(10) number in parenthesis is the estimated number of acres shifting from a specific shoreline environment designation under the existing SMMP to a specific shoreline environment under the proposed SMP. Estimated acreages may not add to correct totals due to imperfectly overlapping polygons in the GIS data sets. Acreage does not include Puget Sound.

Utility Installation and Maintenance

The general regulations for utility installation are similar in the existing SMMP and the proposed SMP. Both programs promote minimal incursion into shoreline jurisdiction, crossing shoreline areas by the most direct route possible, avoiding installation parallel to the water's edge, and protection of scenic views. The key difference between the two programs is the requirement under the proposed SMP to obtain a conditional use permit for installation of some types of utilities when located in any environment other than Urban. Conditional use permits are not required for utilities under the existing SMMP.

Table 8-L shows a neutral impact when the Urban, Suburban or Rural designated areas under the existing SMMP are shifted into an Urban designation under the proposed SMP because in each situation utility facilities are permitted. Where Table 8-L shows that the proposed SMP is more restrictive, it is because some types of utility facilities may now require a conditional use permit in the new shoreline environment under the proposed SMP. A shift out of the Natural environment under the existing SMMP results in less restrictive regulations because utility facilities are prohibited unless unavoidably necessary in the Natural environment under the existing SMMP but some types of facilities are at least conditionally permitted in every environment under the proposed SMP.

Table 8-L. Comparison of Regulations – UTILITY INSTALLATION AND MAINTENANCE							
General Standards: Both programs promote minimal incursion into shoreline jurisdiction, crossing shoreline areas by the most direct route possible, avoiding installation parallel to the water's edge and protection of scenic views. The key difference between the two programs is the requirement under the proposed SMP to obtain a conditional use permit for installation of some types of utilities when located in any environment other than Urban.							
SMMP Shoreline Environment Designations (existing)	SMP Shoreline Environment Designations (proposed)						
	Urban	Urban Conservancy	Rural Conservancy	Resource	Municipal Watershed Utility	Natural	Aquatic
Urban	-0- (383)	+++ (0)	+++ (68)	+++ (67)	+++ (0)	+++ (0)	+++ (172)
Suburban	-0- (275)	+++ (27)	+++ (1374)	+++ (12)	+++ (0)	+++ (4)	+++ (2747)
Rural	-0- (278)	+++ (248)	+++ (4467)	+++ (40,751)	+++ (0)	+++ (1233)	+++ (1697)
Conservancy	--- (133)	+++ (213)	+++ (7656)	+++ (6702)	+++ (0)	+++ (2666)	+++ (5341)
Natural	--- (10)	--- (0)	--- (6)	--- (10)	+++ (0)	--- (1000)	--- (490)

New areas not designated in the SMMP	+++ (62)	+++ (20)	+++ (1404)	+++ (1580)	+++ (1776 - lake) (476 – shoreland)	+++ (275)	+++ (1850)
Subtotal – excluding new areas and Aquatic	+++ (65,488)		--- (1159)		-0- (936)		
Subtotal – all shorelands	+++ (69,305)		--- (1159)		-0- (936)		
Total	+++ (82,888)		--- (1649)		-0- (936)		
Key: +++ means that the proposed SMP regulations are more restrictive than the existing SMMP regulations. --- means that the proposed SMP regulations are less restrictive than the existing SMMP regulations. -0- means that the proposed SMP regulations are the same as or equivalent to the existing SMMP regulations. (10) number in parenthesis is the estimated number of acres shifting from a specific shoreline environment designation under the existing SMMP to a specific shoreline environment under the proposed SMP. Estimated acreages may not add to correct totals due to imperfectly overlapping polygons in the GIS data sets. Acreage does not include Puget Sound.							

Vegetation Maintenance

Preservation of native vegetation in shoreline areas helps to protect and maintain shoreline ecological functions. Both the existing SMMP and the proposed SMP require that any disturbance to native vegetation, soils and natural topography be the minimum necessary to accommodate an approved shoreline use. Any disturbed shoreline areas shall be restored with native plant species. There are no environment-specific regulations addressing vegetation management.

View Protection

Regulations to protect scenic views are scattered throughout the existing SMMP and proposed SMP. View protection is largely accomplished through structural design standards and placement, bulk regulations (such as structure height restrictions), and through vegetation management. Native vegetation is considered as a scenic asset rather than as a view obstruction. There are no environment-specific regulations addressing view protection.

Regulatory Analysis - Conclusion

Table 9 summarizes the results from Table 8(A-L). This represents the most common shoreline uses and modifications that occur in Snohomish County. As shown in Table 9, for most uses and modifications examined here, a shift from the existing SMMP to the proposed SMP (Alternative 2 or 3) appears to result in application of more restrictive regulations. This is largely the result of one or more of the following:

- New requirements for conditional use permits;
- Additional or more specific regulatory standards and public access requirements; and
- Addition of streams, lakes and shorelands not previously regulated under the SMA.

In some cases, implementation of the proposed SMP would result in less restrictive regulations due to increased flexibility allowed for restoration/enhancement projects (Fill), or due to less restrictive or less specific regulatory and design standards (parking standards under Road Construction and Maintenance).

Table 9. Summary of Regulatory Analysis: Implementation of the Proposed SMP			
Use / Modification	Relative shift in regulatory restrictions SMMP → SMP		
	Acres subject to more restrictive regulations +++	Acres subject to less restrictive regulations ---	Regulations would be similar -0-
Agriculture	22,346	16,251	46,876
Docks	64,125	20,348	1,000
Dredging and Dredge Spoil Disposal	61,246	24,227	0
Fill	10,393	72,901	2,719
Flood Protection Measures	21,791	1,516	62,166
Forestry	22,791	2,695	59,987
Mining	79,518	5,955	0
Road Construction and Maintenance	19,182	66,291	0
Shoreline Bank Stabilization (bulkheads)	83,957	1,516	0
Shoreline Habitat Restoration	83,957	1,516	0
Single-family Residential & Subdivisions	83,957	1,516	0
Utility Installation and Maintenance	82,888	1,649	936

Aside from the uses and modifications specifically included above, the proposed SMP also includes policies and regulations addressing:

- Aquaculture (commercial facilities and processing)
- Boating Facilities (other than docks – i.e., marinas, boat launches)
- Breakwaters, jetties, groins and other in-water structures
- Commercial
- Industry and Ports
- Institutional Uses
- Recreation

These uses and modifications occur only on a small fraction of the County's total shoreline jurisdiction. With the possible exception of new recreation facilities, new development associated with these activities is unlikely to occur in shoreline areas. In any case, such new development would be subject to the permit and regulatory standards in the proposed SMP designed to avoid, minimize and mitigate potential impacts.

Overall, relative to the existing SMMP, the regulations in the proposed SMP appear to provide better protection for shoreline ecological functions; balance the goals of the SMA to protect the environment and public use of the shorelines; and offset potential impacts, particularly when combined with the County's non-regulatory programs.

4.5 Offsets for Impacts to Shoreline Ecological Functions

The County has adopted and implemented a multifaceted approach, including both regulatory and non-regulatory programs, for protection shoreline ecological functions. This multifaceted approach is supported by policies in the County's comprehensive plan adopted under the Growth Management Act⁶. WAC 173-26-186(9) recognizes that the primary goals of the SMA to promote water-dependent uses and to maintain navigational and public access all while protecting shoreline ecology will require a unique policy and regulatory balance. WAC 173-26-186(3), (4) and (8)(c) support using a multifaceted approach to achieve the SMA goals including:

⁶ Snohomish County, *General Policy Plan – A Component of the GMA Comprehensive Plan*, Natural Environment Chapter, pg. NE-1 – NE-20, Amended Effective Date June 20, 2008,

policy and regulation, park and watershed planning, restoration and enhancement programs, land acquisition and easements, and other incentive programs.

In addition to adopting regulations under the GMA and the SMA, the County has implemented several non-regulatory programs including: public education and assistance programs, transfer and purchase of development rights, open space tax incentives, capital restoration and enhancement projects, park planning and land acquisition, and monitoring and adaptive management programs. These non-regulatory programs supplement and offset the limitations inherent in regulatory programs. When combined, the outcome is expected to result in no net loss of shoreline ecological functions.

Regulatory Offsets

The proposed SMP contains policies and regulations that are based on the SMA's "no net loss" standard. These policies and regulations can be summarized as follows:

- Uses within the Aquatic environment are only permitted if the use is allowed in the adjacent upland environment designation.
- All new development (including creation of lots) must be designed to prevent the need for shoreline stabilization and/or structural flood hazard reduction measures for the life of the development.
- Development over critical salt water habitats will not be allowed unless there is no other feasible location and the development would result in no net loss of critical habitat.
- Residential subdivisions will only be allowed as rural clusters or planned residential development.
- Breakwaters, jetties, and groins will only be allowed when necessary to support an existing water dependent use and only when there is no other feasible alternative with fewer impacts.
- Commercial development would be prohibited within the Urban Conservancy and Natural designations and allowed in other shoreline environments only within areas zoned General Commercial (GC), Rural Business (RB), Rural Industrial (RI), or Rural Freeway Service (RFS).
- New docks, piers and floats will be allowed only when necessary to facilitate water dependent uses or public access. Docks should be designed to minimize length and width; joint use facilities are encouraged.
- Docks, piers, and floats associated with single-family residences will be allowed if it can be demonstrated that existing community facilities are inadequate, unfeasible, or unavailable for use.
- Design and construction materials of new docks must comply with the SMP.
- New structural flood protection measures may be allowed only under certain circumstances, and only if non-structural methods are not feasible.

- Removal of gravel for flood management purposes will be allowed only under certain conditions.
- Agriculture would be permitted outright in all designations, except Natural and Aquatic, where it would be a conditional use. Only the Municipal Watershed Utility designation prohibits farming.
- Commercial timber cutting within 200 feet landward of the OHWM must use selective timber cutting so that no more than 30 percent of the merchantable timber may be harvested in any ten-year period of time.
- New log storage areas must be on dry land and paved.
- Utilities are not a preferred shoreline use and should be allowed only when there are no other feasible options.
- The critical area regulations require that impacts be avoided whenever possible, and when not possible, impacts must be minimized and fully mitigated such that the “no net loss” standard is achieved. Critical area studies are required to document the functions present, the potential impacts, the mitigation used and the monitoring program to be utilized to ensure long term success of the mitigation.

Non-Regulatory Offsets

Snohomish County supports a variety of non-regulatory programs. The continued support of these programs is an important component of a comprehensive protection and restoration strategy. Non-regulatory programs include: planning and intergovernmental coordination; public education and stewardship; incentive programs; purchase and acquisition programs; monitoring and adaptive management; and restoration and enhancement projects. The following is a description of some of these non-regulatory programs.

Planning and Intergovernmental Coordination

The County participates in multiple intergovernmental and stakeholder planning efforts including WRIA planning, SIRC, Puget Sound Partnership, Marine Resources Committee, The Ruckelshaus Center, and Agricultural Advisory Board. In addition to those partners listed in Table 5, the County pursues partnerships with the Cascade Land Conservancy, state agencies (WDFW, DNR, DOE), WSU Beach Watchers, Stillaguamish Tribe, Tulalip Tribes, People for Puget Sound, City of Everett, City of Edmonds, City of Mukilteo, City of Arlington, Streamkeepers, Adopt-a-Stream and others.

Public Education and Stewardship

Northwest Stream Center – The County supports and provides facilities for the educational programs provided by the Adopt-a-Stream Foundation and the Northwest Stream Center at McCollum Park. This is a regional environmental education and interpretive facility that focuses

on stream and wetlands ecology and fish and wildlife habitat restoration (2007 Snohomish County Comprehensive Parks Plan).

The **Salmon Watch** field experiences focus on educating teachers, students and parents about salmon in local streams. Classes in this program travel to a local salmon spawning stream where they see – often for the first time – salmon migrating to their spawning beds (Snohomish County Surface Water Management Division Website 2009).

The **Salmon and Plants for Kids** program uses streamside restoration and a series of three fieldtrips to teach how native plants improve water quality and wildlife habitat. Students in this program plant and monitor a stream restoration site and assist SWM's Native Plant Program by potting plants at the nursery or salvaging plants from construction sites. These plants are re-planted by students the following year (Snohomish County Surface Water Management Division Website 2009).

The **Native Plant Program** trains volunteers to identify and salvage native plants from areas where they would otherwise be destroyed due to development, roads, or other activities. The salvaged plants are taken to our native plant holding facility for about a year then they are transplanted to stream and riverbanks where they help improve water quality and fish habitat.

The goals of the **Watershed Stewards Program** include facilitating voluntary BMPs by property owners, implementing watershed improvement projects and maintaining community partnerships in areas of mutual concern and benefit. Stewards work with property owners and other stakeholders to identify and target water resource improvements, provide technical assistance and project implementation. Areas of steward emphasis include: Stillaguamish CWD, Snohomish WMA, South County WMA, Marine Resources, and Agricultural Outreach.

The **Education Programs** such as the **Watershed Education Program** and **Shore Stewards Program** seeks to educate shoreline residents about the issues pertinent to shoreline and encourage them to be responsible landowners. The programs help citizens understand the natural processes and adopt watershed- and salmon-friendly actions such as: planting native vegetation along stream banks, teaching others in their community about water and fish issues, collecting and sharing data, raising funds, understanding land use and regulatory processes as they relate to aquatic habitat, water quality, urban drainage and river flooding. Events offered by the Watershed Education Program are designed to help citizens protect and restore aquatic habitat and water quality, and deal with urban drainage problems and river flooding. The county partners with Puget Sound Partnership, WSU Beach Watchers, Snohomish County Public Works, Stillaguamish Tribe, Tulalip Tribes, People for Puget Sound, and Rosary Heights Nunnery, City of Everett, City of Edmonds, City of Mukilteo, and others to conduct **Landowner Workshops**. The half-day workshops educate shoreline landowners on issues such as

landslides, vegetation on slopes, natural lawn care, and low impact development.

The **Lake Management Program** provides a variety of lake monitoring and management services, including monitoring the water quality of lowland lakes, conducting detailed lake restoration studies, taking actions to control invasive aquatic plants, providing public education, volunteer monitoring and technical assistance to lake groups and lakeside residents, preparing reports analyzing the condition of county lakes.

The **Marine Resources Management Program's** primary goal is to protect and restore the marine waters, habitats, and species off the shores of Snohomish County. We investigate marine resource-related concerns and recommend remedial actions to local authorities and property owners. County Surface Water Management staff are available to provide technical assistance, advice and ideas to shoreline landowners on issues related to: bluff management, bulkheads and softshore armoring, riparian vegetation, marine life, water quality and beach restoration (Snohomish County Surface Water Management Division Website 2009).

Incentive Programs

Open Space / Current Use Property Tax Program. The County has adopted policies and designation criteria⁷ to implement chapter 84.34 RCW, providing reduced property taxes for lands maintained in natural condition. Stream corridors, lake and saltwater shorelines, wetlands, wildlife habitat, riparian areas, steep slopes, and areas supporting unique or rare plant communities are all potentially eligible for inclusion in this tax incentive program.

TDR / PRD Programs. The County has initiated Transfer of Development Rights and Purchase of Development Rights programs. These programs are primarily designed to preserve agricultural lands for long-term agricultural production. Preservation of prime agricultural lands in the County ensures that development potential and adverse impacts to natural floodplain processes in the major river valleys are minimized in these areas. Forest resource lands are also eligible for TDR. Development potential is transferred to receiving areas which can support the increased density. Criteria for determining appropriate receiving areas includes planned densities, service availability and environmental constraints posed by natural features like slopes and soils, or the presence of streams and wetlands.

Purchase and Acquisition

Resource Land Conservation – Snohomish County has taken the lead in resource protection for the past 30 years by purchasing over 9,000 acres of parklands. The past and current

⁷ Adopted policies and designation criteria for participation in the County's tax incentive program are found in SCC 4.28.030 and .040 respectively.

comprehensive park plans highlight the need and importance of preserving key natural areas for the benefit of future generations. As a result there are many county parklands that are undeveloped sensitive environmental areas, and many with important natural areas (2007 Snohomish County Comprehensive Parks Plan). Some of the most important properties acquired with potential for preservation and restoration of natural areas include waterfront areas in Robe Canyon, Snohomish Estuary, Lord Hill Park, Bob Heirman Wildlife Preserve, River Meadows, Cicero Ponds, Lake Cassidy, Kayak Point, and O'Reilly Acres.

Monitoring and Adaptive Management

The County has developed a monitoring program to assess the level of success achieving the “no net loss” standard for ecological functions. Ecological indicators will be monitored along with development activities and mitigation measures. If it is determined that ecological functions have diminished over time, an assessment will be made to determine the cause(s) and identify the appropriate action necessary to restore the ecological balance. The County will be looking for potential failed or inadequate mitigation, failure to fully implement the regulatory requirements, or regulations which do not achieve the required standard. The County may utilize enforcement, regulatory changes, increased capital restoration and acquisition efforts, and education and incentive programs.

Restoration and Enhancement Projects

The individual WRIA salmon conservation plans, findings of the Marine Resources Advisory Committee, Noxious Weed Control Board, Snohomish County Lake Management Program and the Drainage Needs Reports have all identified a number of proposed restoration projects. Implementation and construction of these proposed restoration projects are carried out by the respective county, municipalities, or tribes identified as the lead for the proposed restoration projects. Other organizations and individuals are also involved in restoration. These include the Tulalip and Stillaguamish Tribes, the Snohomish Conservation District, the Cascade Land Conservancy, the Stilly-Snohomish Fisheries Enhancement Task Force, other non-profit organizations, and private landowners. In addition, State and Federal agencies such as the Washington State Department of Fish and Wildlife, the US Fish and Wildlife Service, and others may be involved in direct project implementation, or as partners in multi-jurisdictional efforts. Within Snohomish County, the Department of Public Works, Surface Water Management Division, is the lead for implementing, designing, and constructing proposed restoration projects.

The County has prepared a separate document entitled, *The Restoration Element*, to comply with the requirements in WAC 173-26-186(8)(c). *The Restoration Element* describes the County's restoration goals and policies and the capital restoration projects funded in the County budget and projects recommended for future consideration.

Regulatory and Non-Regulatory Offsets by Shoreline Ecological Function

Tables 10A, 10B and 10C identify the regulatory and non-regulatory tools to be used to offset potential impacts to each shoreline ecological function from the major foreseeable types of future development activities. Tables 10A, 10B and 10C address the following:

- What types of future development are most likely along lake, river and marine shorelines?
- How will these future development types impact water quality, hydrological processes, habitat, and the shoreline ecological functions supported by riparian vegetation?
- What regulations are included in the proposed SMP to prevent, minimize and mitigate these potential impacts?
- What non-regulatory programs can be used to help prevent or further offset any potential impacts?

Table 10A. Summary of Potential Cumulative Impacts Associated with Proposed SMP – Lake Shoreline Reaches

Shoreline Function	Major Type(s) of Foreseeable Future Development Likely to Affect Shoreline Function	Potential Impacts to Shoreline Function	Proposed SMP and Other Regulatory Offsets (Regulatory Citation)	Non-Regulatory Offsets
Vegetation	<ul style="list-style-type: none"> Continued residential infill Dock, pier, or ramp construction associated with residential use Continued and expanded light agricultural use 	<ul style="list-style-type: none"> Continued decrease in mature shoreline vegetation as clearing for new construction and other uses continues 	<p>Proposed Program:</p> <ul style="list-style-type: none"> Residential siting and vegetation clearing restrictions that limit clearing to minimum necessary (SCC 30.67.570 and 30.67.599) Recommendation that vegetated buffers with low-impact management techniques be used (Shoreline Policies – Vegetation Management, section 3.2.5.19) Preference for clustered development, with the open space area preserving and providing access to the water (SCC 30.67.570(1)(a)) <p>Other Regulatory:</p> <ul style="list-style-type: none"> Critical area regulations limits vegetation removal by requiring buffers adjacent to lakes (SCC 30.62A.320) and mitigation of impacts on critical area functions and values (SCC 30.62A.310(3)); encourages LID with innovative development option (SCC 30.62A.350) Federal ESA requirements that require preservation of habitat for endangered and threatened species (50 CFR Section 17) 	<ul style="list-style-type: none"> Public education programs to encourage riparian re-planting (e.g., Snohomish County Surface Water Management Division's Watershed Education Program) Conservation easements offered to farmers under Purchase of Development Rights (PDR) pilot program Possible future implementation of metrics (e.g., percent riparian vegetation retained) to establish future no net loss standards Locally based watershed restoration projects (as identified in Shared Strategy, SEWIP, other planning documents)
Water Movement	<ul style="list-style-type: none"> Dock, pier, or ramp construction associated with residential use Bulkhead development associated with single family 	<ul style="list-style-type: none"> Further impairment of water movement and hydrologic function 	<p>Proposed Program:</p> <ul style="list-style-type: none"> New location, design, and construction standards on docks, in-water, and shoreline stabilization structures that seek to minimize impacts to water movement and hydrologic function – e.g., limiting size of structures (SCC 30.67.515, .520 and .575) Requires mitigation for impacts to critical shoreline functions (30.67.320(2)(b)) Prohibition on bulkheads (hard-bank structures) unless they are the only feasible shoreline stabilization method (SCC 30.67.575(1)(a)) New location and design standards on shoreline stabilization structures (e.g., bulkheads) that require impacts to immediate and adjacent shoreline areas be minimized (SCC 30.67.575). Requirement that new boating facilities must be designed to minimize need for stabilization structures (SCC 30.67.515(1)(j)(i)) 	<ul style="list-style-type: none"> Public education programs to encourage understanding of drainage processes (e.g., Snohomish County Surface Water Management Division's Watershed Education Program)

			<p>Other Regulatory:</p> <ul style="list-style-type: none"> Critical area regulations limit the uses which may disrupt the shoreline and interfere with the hyporheic zone (SCC 30.62A.330, 30.62B.320(2)) Federal dredge/fill permitting requirements that require avoidance of/mitigation for impacts (CWA Section 404) State HPA requirements that require in-water projects to minimize adverse impacts to fish and shellfish in marine or other shoreline areas (Chapter 220-110 WAC).; 	
Water Quality	<ul style="list-style-type: none"> Dock, pier, or ramp construction associated with residential use Continued residential infill Continued and expanded light agricultural use 	<ul style="list-style-type: none"> Water quality impacts associated with construction of docks and other in-water structures (e.g., spills, harmful materials use) Increase in runoff and associated water quality impacts with the creation of new impervious surfaces for residential use Increase in pesticide and fertilizer inputs into lake reaches resulting from agricultural uses 	<p>Proposed Program:</p> <ul style="list-style-type: none"> New location, design, and construction standards for docks, piers, and other in-water structures that minimize water quality impacts – e.g., that prohibit use of toxic materials and require spill prevention plans (SCC 30.67.515 and 520) SMP requirement that projects not adversely impact water quality (SCC 30.67.320) Requirement that shoreline agricultural uses must comply with provisions to protect water quality (SCC 30.67.505) <p>Other Regulatory:</p> <ul style="list-style-type: none"> Critical area regulations require protective buffers and limit the effective impervious surface allowed within 300 feet of the shoreline OHWM (30.62A.320(1)(c)) State water quality requirements – e.g., point source and stormwater requirements (173-201A WAC) 	<ul style="list-style-type: none"> Low-impact development projects (e.g., those designed/implemented by Sustainable Snohomish County) Public education/ assistance campaigns designed to minimize pollution inputs (e.g., Snohomish County Surface Water management stewards) Education/assistance programs for agricultural landowners (through Snohomish Conservation District)
Habitat	<ul style="list-style-type: none"> Continued residential infill Dock, pier, or ramp construction associated with residential use Bulkhead development associated with single family Continued and expanded light agricultural use 	<ul style="list-style-type: none"> Loss of or disturbance to riparian habitat during residential construction and use Increased shading in nearshore lake habitat areas resulting from dock and pier construction Increase in pesticide and fertilizer inputs into lake reaches 	<p>Proposed Program:</p> <ul style="list-style-type: none"> Residential siting and vegetation clearing restrictions that limit clearing to minimum necessary (SCC 30.67.599) New location, design, and construction standards for docks, piers, and other in-water structures that serve to minimize habitat impacts – e.g., size restrictions to minimize shading impacts (SCC 30.67.515 and .520) Preference for clustered development, with the open space area preserving and providing access to the water (SCC 30.67.570(1)(a)) Habitat restoration and enhancement widely allowed and facilitated (SCC 30.67.580 and 30.44.120(p)). 	<ul style="list-style-type: none"> Restoration projects (e.g., those identified through Shared Strategy, Stillaguamish Clean Water District Board, etc.) Public education programs to encourage protection and restoration of shoreline habitat (e.g., Snohomish County Surface Water Management Division's Watershed Education Program) Conservation easements offered to farmers under Purchase of

		resulting from agricultural uses	<p>Other Regulatory:</p> <ul style="list-style-type: none"> • Critical area regulations protect habitat by requiring buffers adjacent to lakes and requiring habitat management plans for critical species (SCC 30.62A.320 and 30.62A.460) • Limits on bulkhead development – non-structural preferred (30.62B.320(2)) • Federal ESA requirements that require preservation of habitat for endangered and threatened species (50 CFR Section 17) 	<p>Development Rights (PDR) pilot program</p> <ul style="list-style-type: none"> • Possible future implementation of metrics (e.g., percent riparian vegetation retained) to establish future no net loss standards
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Table 10B. Summary of Potential Cumulative Impacts Associated with Proposed SMP – River/Stream Shoreline Reaches

Shoreline Function	Major Type(s) of Foreseeable Future Development Likely to Affect Shoreline Function	Potential Impacts to Shoreline Function	Proposed SMP and Other Regulatory Offsets	Non-Regulatory Offsets
Vegetation	<ul style="list-style-type: none"> Continued expansion of agricultural and other resource-based uses Additional residential development within existing pockets of residential uses Creation of more parks/public access sites 	<ul style="list-style-type: none"> Decrease in shoreline/riparian vegetation as clearing for agricultural and residential uses continue. 	<p>Proposed Program:</p> <ul style="list-style-type: none"> Residential siting and vegetation clearing restrictions that limit clearing to minimum necessary (SCC 30.67.570 and 30.67.599) Recommendation that vegetated buffers with low-impact management techniques be used (Shoreline Policies – Vegetation Management, section 3.2.5.19) Preference for clustered development, with the open space area preserving and providing access to the water (SCC 30.67.570(1)(a)) <p>Other Regulatory:</p> <ul style="list-style-type: none"> Critical area regulations limits vegetation removal by requiring buffers adjacent to streams and rivers (SCC 30.62A.320) and mitigation of impacts on critical area functions and values (SCC 30.62A.310(3)); encourages LID with innovative development (SCC 30.62A.350) Federal ESA requirements that require preservation of habitat for endangered and threatened species (50 CFR Section 17) 	<ul style="list-style-type: none"> Public education programs for individual landowners (e.g., Snohomish County's Landowner Guide to Streamside Living) Conservation easements offered to farmers under Purchase of Development Rights (PDR) pilot program Possible future implementation of metrics (e.g., percent riparian vegetation retained) to establish future no net loss standards Locally based watershed restoration projects (as identified in Shared Strategy, SEWIP, other planning documents)
Water Movement	<ul style="list-style-type: none"> Additional residential development within existing pockets of residential uses and potential associated shoreline modification such as bulkheads Creation of more parks/public access sites – construction of shoreline modifications associated with access and water recreation 	<ul style="list-style-type: none"> Reduction in LWD recruitment and other organic material as shoreline habitats are altered for residential and recreational use Modification of flow regimes and channel migration with construction of buildings, roads, docks, ramps, or other recreational-use structures 	<p>Proposed Program:</p> <ul style="list-style-type: none"> New location, design, and construction standards on docks, in-water, and shoreline stabilization structures that seek to minimize impacts to water movement and hydrologic function – e.g., limiting size of structures (SCC 30.67.515, .520 and .575) Requires mitigation for impacts to critical shoreline functions (30.67.320(2)(b)) Prohibition on bulkheads (hard-bank structures) unless they are the only feasible shoreline stabilization method (SCC 30.67.575(1)(a)) New location and design standards on shoreline stabilization structures (e.g., bulkheads) that require impacts to immediate and adjacent shoreline areas be minimized (SCC 30.67.575). Requirement that new boating facilities must be designed to minimize need for stabilization structures (SCC 30.67.515(1)(j)(i)) Standards for dredging and spoil disposal which require no net loss of ecological functions (SCC 30.67.530) 	<ul style="list-style-type: none"> Public education programs to encourage understanding of drainage processes (e.g., Snohomish County Surface Water Management Division's Watershed Education Program)

			<p>Other Regulatory:</p> <ul style="list-style-type: none"> • Critical area regulations limit the uses which may disrupt the shoreline and interfere with the hyporheic zone (SCC 30.62A.330, 30.62B.320(2)) • Federal dredge/fill permitting requirements that require avoidance of/mitigation for impacts (CWA Section 404) • State HPA requirements that require in-water projects to minimize adverse impacts to fish and shellfish in marine or other shoreline areas (Chapter 220-110 WAC).; 	
Water Quality	<ul style="list-style-type: none"> • Continued expansion of agricultural and other resource-based uses • Additional residential development within existing pockets of residential uses • Creation of more parks/public access sites 	<ul style="list-style-type: none"> • Increase in runoff and associated water quality impacts due to increased agricultural, logging, or other resource-related uses • Water quality impacts associated with construction of docks and other in-water structures (e.g., spills, harmful materials use) • Increase in runoff and associated water quality impacts with the creation of new impervious surfaces for residential use 	<p>Proposed Program:</p> <ul style="list-style-type: none"> • New location, design, and construction standards for docks, piers, and other in-water structures that minimize water quality impacts – e.g., that prohibit use of toxic materials and require spill prevention plans (SCC 30.67.515 and 520) • SMP requirement that projects not adversely impact water quality (SCC 30.67.320) • Requirement that shoreline agricultural uses must comply with provisions to protect water quality (SCC 30.67.505) <p>Other Regulatory:</p> <ul style="list-style-type: none"> • Critical area regulations require protective buffers and limit the effective impervious surface allowed within 300 feet of the shoreline OHWM (30.62A.320(1)(c)) • State water quality requirements – e.g., point source and stormwater requirements (173-201A WAC) 	<ul style="list-style-type: none"> • Low-impact development projects (e.g., those designed/implemented by Sustainable Snohomish County) • Public education/ assistance campaigns designed to minimize pollution inputs (e.g., Snohomish County Surface Water management stewards) • Education/assistance programs for agricultural landowners (through Snohomish Conservation District)
Habitat	<ul style="list-style-type: none"> • Continued expansion of agricultural and other resource-based uses • Additional residential development within existing pockets of residential uses and associated shoreline modifications such 	<ul style="list-style-type: none"> • Potential loss of or disturbance to riparian habitat during clearing for agriculture or logging • Potential damage to aquatic habitat via runoff from agricultural use 	<p>Proposed Program:</p> <ul style="list-style-type: none"> • Residential siting and vegetation clearing restrictions that limit clearing to minimum necessary (SCC 30.67.599) • New location, design, and construction standards for docks, piers, and other in-water structures that serve to minimize habitat impacts – e.g., size restrictions to minimize shading impacts (SCC 30.67.515 and .520) • Preference for clustered development, with the open space area preserving and providing access to the water (SCC 30.67.570(1)(a)) 	<ul style="list-style-type: none"> • Conservation easements offered to farmers under Purchase of Development Rights (PDR) pilot program • Restoration projects (e.g., those identified through Shared Strategy, Stillaguamish Clean Water District Board, etc.) • Public education programs to encourage protection and

	<ul style="list-style-type: none"> as bulkheads Creation of more parks/public access sites 	<ul style="list-style-type: none"> Loss of or disturbance to riparian habitat during residential construction and use 	<ul style="list-style-type: none"> Requirement that new boating facilities be designed to protect ecologically sensitive areas (e.g., eelgrass beds, forage fish spawning areas, etc.) (SCC 30.67.515(1)(b)) Habitat restoration and enhancement widely allowed and facilitated (SCC 30.67.580 and 30.44.120(p)). <p>Other Regulatory:</p> <ul style="list-style-type: none"> Critical area regulations protect habitat by requiring buffers adjacent to rivers and streams and requiring habitat management plans for critical species (SCC 30.62A.320 and 30.62A.460) Limits on bank stabilization – non-structural preferred, use of vegetation to stabilize banks may improve habitat functions, water temperatures, etc. (30.62B.320(2)) Federal ESA requirements that require preservation of habitat for endangered and threatened species (50 CFR Section 17) 	<p>restoration of shoreline habitat (e.g., Snohomish County Surface Water Management Division's Watershed Education Program)</p> <ul style="list-style-type: none"> Possible future implementation of metrics (e.g., percent riparian vegetation retained) to establish future no net loss standards
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Table 10C. Summary of Potential Cumulative Impacts Associated with Proposed SMP – Marine Shoreline Reaches

Shoreline Function	Major Type(s) of Foreseeable Future Development Likely to Affect Shoreline Function	Potential Impacts to Shoreline Function	Proposed SMP and Other Regulatory Offsets	Non-Regulatory Offsets
Vegetation	<ul style="list-style-type: none"> • Infill in developed marine shoreline residential areas • New or expanded shoreline armoring associated with residential marine use • Continued and expanded agricultural use • More parks/public access sites 	<ul style="list-style-type: none"> • Continued decrease in mature shoreline vegetation as clearing for new construction and other uses continues 	<p>Proposed Program:</p> <ul style="list-style-type: none"> • Residential siting and vegetation clearing restrictions that limit clearing to minimum necessary (SCC 30.67.570 and 30.67.599) • Recommendation that vegetated buffers with low-impact management techniques be used (Shoreline Policies – Vegetation Management, section 3.2.5.19) • Preference for clustered development, with the open space area preserving and providing access to the water (SCC 30.67.570(1)(a)) <p>Other Regulatory:</p> <ul style="list-style-type: none"> • Critical area regulations limits vegetation removal by requiring buffers adjacent to marine waters (SCC 30.62A.320) and mitigation of impacts on critical area functions and values (SCC 30.62A.310(3)); encourages LID with innovative development (SCC 30.62A.350) • Federal ESA requirements that require preservation of habitat for endangered and threatened species (50 CFR Section 17) 	<ul style="list-style-type: none"> • Public education programs to encourage riparian re-planting (e.g., Snohomish County Surface Water Management Division's Watershed Education Program) • Locally based watershed restoration projects (as identified in Shared Strategy, SEWIP, other planning documents) • Conservation easements offered to farmers under Purchase of Development Rights (PDR) pilot program • Riparian habitat mapping/restoration projects by Snohomish County Surface Water Management Division's Marine Resources Program (e.g., vegetation monitoring survey) • Possible future implementation of metrics (e.g., percent riparian vegetation retained) to establish future no net loss standards
Water Movement	<ul style="list-style-type: none"> • New or expanded shoreline armoring associated with residential marine use • Creation of more parks/public access sites – construction of shoreline modifications associated with 	<ul style="list-style-type: none"> • Further restriction in sediment flows and water movement as armoring continues • Reduction in LWD recruitment and other organic material as shoreline habitats are altered for residential and recreational use 	<p>Proposed Program:</p> <ul style="list-style-type: none"> • New location, design, and construction standards on docks, in-water, and shoreline stabilization structures that seek to minimize impacts to water movement and hydrologic function – e.g., limiting size of structures (SCC 30.67.515, .520 and .575) • Requires mitigation for impacts to critical shoreline functions (30.67.320(2)(b)) • Prohibition on bulkheads (hard-bank structures) unless they are the only feasible shoreline stabilization method (SCC 30.67.575(1)(a)) • New location and design standards on shoreline stabilization 	<ul style="list-style-type: none"> • Public education programs to encourage understanding of drainage processes (e.g., Snohomish County Surface Water Management Division's Watershed Education Program)

	access and water recreation	<ul style="list-style-type: none"> Modification of flow regimes with construction of docks, ramps, or other recreational-use structures 	<p>structures (e.g., bulkheads) that require impacts to immediate and adjacent shoreline areas be minimized (SCC 30.67.575).</p> <ul style="list-style-type: none"> Requirement that new boating facilities must be designed to minimize need for stabilization structures (SCC 30.67.515(1)(j)(i)) Standards for dredging and spoil disposal which require no net loss of ecological functions (SCC 30.67.530) <p>Other Regulatory:</p> <ul style="list-style-type: none"> Critical area regulations limit the uses which may disrupt the shoreline and interfere with the hyporheic zone (SCC 30.62A.330) Federal dredge/fill permitting requirements that require avoidance of/mitigation for impacts (CWA Section 404) State HPA requirements that require in-water projects to minimize adverse impacts to fish and shellfish in marine or other shoreline areas (Chapter 220-110 WAC).;) 	
Water Quality	<ul style="list-style-type: none"> Infill in developed marine shoreline residential areas Continued and expanded agricultural use 	<ul style="list-style-type: none"> Increase in runoff and associated water quality impacts due to increased residential use and impervious surface area Increase in runoff and associated water quality impacts due to increased agricultural uses Water quality impacts associated with construction of docks and other in-water structures (e.g., spills, harmful materials use) 	<p>Proposed Program:</p> <ul style="list-style-type: none"> New location, design, and construction standards for docks, piers, and other in-water structures that minimize water quality impacts – e.g., that prohibit use of toxic materials and require spill prevention plans (SCC 30.67.515 and 520) SMP requirement that projects not adversely impact water quality (SCC 30.67.320) Requirement that shoreline agricultural uses must comply with provisions to protect water quality (SCC 30.67.505) <p>Other Regulatory:</p> <ul style="list-style-type: none"> Critical area regulations require protective buffers and limit the effective impervious surface allowed within 300 feet of the shoreline OHWM (30.62A.320(1)(c)) State water quality requirements – e.g., point source and stormwater requirements (173-201A WAC) 	<ul style="list-style-type: none"> Low-impact development projects (e.g., those designed/implemented by Sustainable Snohomish County) Public education/ assistance campaigns designed to minimize pollution inputs (e.g., Snohomish County Surface Water management stewards) Education/assistance programs for agricultural landowners (through Snohomish Conservation District)
Habitat	<ul style="list-style-type: none"> Infill in developed marine shoreline residential areas New or expanded shoreline armoring associated with residential marine 	<ul style="list-style-type: none"> Loss of or disturbance to riparian habitat during residential construction and use Potential loss of or disturbance to 	<p>Proposed Program:</p> <ul style="list-style-type: none"> Residential siting and vegetation clearing restrictions that limit clearing to minimum necessary (SCC 30.67.599) New location, design, and construction standards for docks, piers, and other in-water structures that serve to minimize habitat impacts – e.g., size restrictions to minimize shading impacts (SCC 30.67.515 and 	<ul style="list-style-type: none"> Restoration projects (e.g., Shared Strategy, Stillaguamish Clean Water District Board, etc.) Public education programs to encourage protection and restoration of shoreline habitat (e.g., Snohomish County Surface Water Management

	<p>use</p> <ul style="list-style-type: none"> Continued and expanded agricultural use <p>More parks/public access sites</p>	<p>riparian habitat during clearing for agricultural use</p> <ul style="list-style-type: none"> Potential damage to aquatic habitat via runoff from agricultural use 	<p>.520)</p> <ul style="list-style-type: none"> Preference for clustered development, with the open space area preserving and providing access to the water (SCC 30.67.570(1)(a)) Requirement that new boating facilities be designed to protect ecologically sensitive areas (e.g., eelgrass beds, forage fish spawning areas, etc.) (SCC 30.67.515(1)(b)) Habitat restoration and enhancement widely allowed and facilitated (SCC 30.67.580 and 30.44.120(p)). <p>Other Regulatory:</p> <ul style="list-style-type: none"> Critical area regulations protect habitat by requiring buffers adjacent to marine waters and requiring habitat management plans for critical species (SCC 30.62A.320 and 30.62A.460) <p>Federal ESA requirements that require preservation of habitat for endangered and threatened species (50 CFR Section 17)</p>	<p>Division's Watershed Education Program)</p> <ul style="list-style-type: none"> Possible future implementation of metrics (e.g., percent riparian vegetation retained) to establish future no net loss standards Nearshore and riparian habitat mapping/restoration projects by Snohomish County Surface Water Management Division's Marine Resources Program (e.g., eelgrass mapping, creosote log survey & removal) Conservation easements offered to farmers under Purchase of Development Rights (PDR) pilot program
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Chapter 5 – Economic Impacts

This chapter will approach potential impacts from a different perspective. While the earlier discussion in Chapter 4 focused on the impacts to the physical environment and shoreline ecological functions - the primary purpose under SEPA - this section will address economic impacts resulting from environmentally protective legislation such as the SMA.

This section deals with the potential economic impacts on property owners from implementation of the proposed SMP relative to the existing SMMP. As mentioned earlier, as environmental protection gets stronger through implementation of management criteria, policy and regulations, development options are typically reduced in scope and further subject to site design restrictions employed to mitigate adverse environmental impacts. Shoreline designation changes that result in an overall reduction of land use intensity, as shown in Tables 6a and 6b, affect approximately 24, 418 acres within shoreline jurisdiction. Property owners in these areas could potentially be adversely affected in terms of economic impacts based on the utility and value of their properties. Conversely, approximately 937 acres will economically benefit from an increase in allowed development intensity and range of development options (see Table 6c).

Any potential decline in dollar value is difficult, if not impossible to accurately quantify due to market variability, the impact of unique site characteristics and the un-quantified positive influence of environmental protection on property values. An example of this positive influence would be the relative marketability of homes located adjacent to greenbelts which are typically advertised as a desirable amenity for potential purchasers. Another example might be the value to consumers and their personal preference associated with water quality, peace and quiet, privacy, natural settings and habitat value for birds, fish and terrestrial wildlife species. Because of the difficulty in quantifying dollar impacts and offsets due to personal preferences, economic impacts will be analyzed in relative terms based only on land use intensity and scope of development potential due to designation shifts between the old SMMP and the proposed SMP.

5.1 Direct Economic Impacts

The direct economic effects of proposed SMP development regulations will generate a series of effects, some of which will diminish the economic utility and market value of the property in question, while other counteracting effects which will generally act to increase property values.

Diminished Utility

Diminished utility takes two forms: 1) the list of allowed land uses is limited; and 2) a property, or a portion thereof, is subject to development restrictions (i.e., setbacks, buffers, critical areas). Under the proposed SMP, any proposed land use must be allowed both under the SMP and the county's zoning code. Adding a layer of regulatory standards may reduce the scope of

allowed uses on any given property. This only results in a negative economic impact attributable to the SMP when the use a particular landowner, or potential purchaser, wishes to develop is not allowed under the SMP. On average, and over the longer term, a clear-cut constraint on allowed uses of the property is likely to reduce the utility and/or market value of the property. However, most property in Snohomish County is developed for single family residential use which is a use supported under the SMA and allowed in all the county's shoreline environment designations and thus it may be that land use constraints included in the proposed SMP will not have a practical impact on most landowners.

Even if a landowner's preferred use is allowed, the full utilization of the property may be limited by restrictions related to ecological protection, such as required buffers, vegetation retention and steep slope protection. It should be noted that similar restrictions under GMA would be applied even if the proposed SMP was not implemented. Thus, this economic impact cannot be fully attributed to the proposed SMP. Landowners can recoup lost value resulting from this type of diminished utility by applying for reduced property taxes through the county's open space program. In addition the environmental amenities associated with well protected shoreline resources – clean water, natural setting, privacy, noise abatement, wildlife habitat – add value to the property. It should also be noted that this type of diminished utility is not unique to properties in shoreline jurisdiction but applies countywide under the county's critical area regulations.

Diminished utility within the County's shoreline jurisdiction has a direct financial impact on the County and flood insurance rate payers related to improved safety. Shorelines by their very definition include floodplains and channel migration zones. Limiting development in these areas will increase safety and reduce costs associated with rescue and repairs. Reduction in damage and flood loss improves the County's rating and reduces the flood insurance rates paid by County residents.

Impacts related to diminished utility have the greatest potential to occur where shorelands are designated as Natural or Urban Conservancy shoreline environments.

Increased Cost of Development

In addition to the constraints in allowed uses of the property, requirements that any subdivision of the property must conform to rural cluster development, a requirement that residential development occur as part of a planned residential development with an open space provision, are likely to increase the cost (for planning) and the uncertainty of outcome that a landowner could expect when initiating the platting or redevelopment process.

In some instances, the residential cluster requirements and planning processes may result in an unambiguously superior configuration for subdivision and development (a configuration that the property owner finds to be superior and would not have identified if she had not engaged in the planning process). In other instances, the planning process and rural cluster requirements may result in an allowed configuration that is no more attractive, from the

perspective of the property owner, than what she would have arrived at through a process that did not include the SMP requirements. In the latter case, the additional cost of the planning process can be viewed as an additional economic cost (from the owner's perspective) associated with using the property. In all instances, any additional uncertainties about what outcomes may flow from planning process represent new costs of development. Again, all else being equal, increased planning costs and increased uncertainty associated with the subdivision of a property will translate to lower value of the property to the owner or purchaser of the property.

Serving to mitigate the potential economic costs to landowners noted above are three potential impacts of the proposed SMP that may serve to generally increase the value of lakefront property. These positive valuation impacts could stem from: 1) a potential shift in the supply of developed or developable lakefront; 2) potential increases to the overall amenity value of the shoreline; and 3) re-coup of dollar value attained through modest density bonuses allowed under the rural cluster regulations and enrollment of open space areas in the property tax reduction program.

Shift in Supply of Developable or Developed Property

If the overall effect of the proposed SMP is to reduce the available supply of developed or developable waterfront properties for a particular type of land use (compared to a future where constraints on supply were less pronounced), then all else being equal, the shift in the supply would increase the market value of existing developed or developable properties where that land use is allowed.

Enhanced Amenity

Under the assumption that the proposed SMP development regulations will result in a meaningful difference in shoreline uses, the amenity value of the shoreline resulting from the proposed SMP development regulations would be improved. Again, all else being equal, this improved environmental quality of the shoreline will tend to increase the value of the property to existing and future owners.

5.2 Secondary Economic Impacts

Adjacent Properties

To the extent that proposed SMP regulations improve the overall environmental quality of the shoreline (compared with the existing SMMP baseline), then the improved amenity value of the shoreline will result in additional economic utility for the owners and users of adjacent properties. Current and future owners of adjacent properties will have the opportunity to enjoy the enhanced environmental quality of the shoreline. This translates into increased enjoyment from the property as well as increased property values.

Local Community

Again, to the extent that proposed SMP regulations improve the overall environmental quality of the shoreline (compared with the existing SMMP baseline), then the improved amenity value of the shoreline will result in additional economic utility for all users of the shoreline within the broader community.

The broader community should also benefit from the proposed SMP development regulations to the extent that the individual and aggregate shoreline protections enacted on properties result in improvements to water quality through better stormwater management and decreases in soil erosion. The community should also benefit from increases to ecosystem health and wildlife habitat. Finally, if the net effect of the proposed SMP is to diminish the scope of uses allowed adjacent to the shoreline, then demand for those uses will be focused in other parts of the community.

If the overall effect of the proposed SMP is to reduce the available supply of developed or developable waterfront properties (compared to a future where constraints on supply were less pronounced), then all else being equal, the shift in supply would increase the market value of existing developed, or developable, waterfront properties in the community.

Local Jurisdictions & County

Given the counteracting effects of the proposed SMP on property values, it is difficult to predict for any given community whether the net effect of the proposed SMP will be to increase or decrease the overall value of waterfront property. In an area where the proposed SMP would introduce few practical constraints on use of existing properties, the overall effect of the proposed SMP might be to generate a net increase in the values of waterfront property. In an area where the proposed SMP would introduce more constraints on the development or use of properties, the proposed SMP might result in an overall decrease in property values (compared with the existing SMMP baseline).

To the extent that the open-space provision for residential developments creates a net decrease in impervious surfaces (allowing for the natural collection, filtration, and storage of run-off), the local jurisdiction and/or county could benefit from savings from not needing to provide additional capacity on combined sewer overflow systems. They could also benefit from avoided damage to roads and property created during times of excessive rainfall and flooding. Even in areas where the impact might be an overall decrease in property values, impacts on property tax revenues to local jurisdictions may not be substantial. Under Washington State law, if local jurisdictions are constrained by property levy growth caps authorized under Initiative 747, then changes in property values generally have little impact on the overall revenues those jurisdictions receive.

Initiative 747 was passed as a statewide initiative in November 2001. The initiative dictates that local property tax levies in Washington State are generally limited to a one-percent annual increase (plus the resulting levy rate multiplied by the value of new construction that occurred within the jurisdiction in the most recent year). For local jurisdictions, this means that in years when the value of existing

properties increase by more than one percent (which is the case in most years), the jurisdictions' levy rates must be reduced by an amount sufficient to ensure that the total levy amount for existing property increases by no more than one percent.

Under these circumstances, a reduction in a county's assessed value associated with SMP regulation changes could be beneficial to a county's revenue structure. The county still receives its legally-constrained property tax, but because its tax base has been reduced, the county's levy rate is allowed to be higher than it would have been in the absence of the reduction in property values. Ultimately, this higher levy rate will allow the county to generate more revenues from any new tax base that is created in the future (i.e., new tax base introduced to the county through continued development). However, either way (in the case of higher or lower property values), as long as the local jurisdiction is limited by the 1% growth factor in property tax levies, changes in property valuations tend to have a minimal effect on tax revenues collected.

The open space program does not result in lost revenue for the County. Tax reductions on open space parcels are recouped on non-open space parcels in the tax district. This distributes the cost of protecting public resources over a broad public base and reduces the burden on individual property owners for providing environmental protection that benefits everyone.

Regional

The improved amenity for shoreline users, in the form of stronger shoreline and environmental protections, should generate benefits for the larger local municipalities and county. The individual shoreline protections should have positive effects on total water quality stemming from reduced levels of water pollution that benefit Puget Sound and the entire surrounding region.

If the net effect of the proposed SMP is to diminish the density of housing adjacent to lakes, rivers, and marine environments, then all else being equal, demand for housing, particularly high-value housing, will be focused in other parts of the community and region. In addition to the direct benefits in terms of water quality and the enhanced experience by shoreline users, any overall enhancement to the environmental quality of Snohomish County has the potential to increase the County's competitive position in attracting certain high-value industries. For industries that rely on a highly mobile, highly educated workforce, quality-of-life issues like environmental balance and environmental amenities are important considerations. To a large degree, businesses in these industries choose to locate in a given area based on what that area can offer them and their employees in terms of quality of life. While it is not the only factor, environmental quality and access to environmental amenities is an important piece of the quality-of-life equation.

Statewide

From a statewide perspective, benefits associated with the proposed SMP development regulations are the result of accumulation of the benefits identified at the community and

regional level. Washington State as a whole benefits from communities and regions in which environmental balance is attained and which, as a result, offer attractive places for people to live and work.

Appendix A – List of Shorelines of the State in Snohomish County

Shorelines of the state means all “shorelines of statewide significance” and all “shorelines” as defined in RCW 90.58.030. The following list contains the areas that meet the criteria in RCW 90.58.030(2)(d) and (e). Shorelands are included except where noted.

Shorelines of Statewide Significance

Marine Shorelines:

Skagit Bay
Stillaguamish River Estuary
Snohomish River Estuary
Puget Sound*
Possession Sound*
Port Gardner*
Port Susan*

Lakes:

Lake Stevens
Spada Lake

Rivers:

Sauk
Skykomish
Snohomish
Snoqualmie
Stillaguamish

* Waterward from the line of extreme low tide.
Shorelands are not included as SSWS.

Shorelines

Marine Shorelines: Water areas of the state landward of the line of extreme low tide on Puget Sound, Possession Sound, Port Gardner and Port Susan.

Lakes (51):

Armstrong	Dagger	Ki	Spring
Big Greider	East Boardman	Little	Stickney
Blanca (federal)	Echo	Little Greider	Storm
Bosworth	Flowing	Loma	Sunday
Boulder	Frontal	Martha (North)	Sunset (federal)
Bryant	Getchell	Martha (South)	Swartz
Cassidy	Goodwin	Mud	Tomtitt
Chain	Hannan	Panther	Twin (North)
Cochran	Howard	Purdy	Twin (South)
Connor	Hughes	Riley	Wagner
Copper	John Sam	Roesiger	Wallace
Crabapple	Kellog	Serene	Woods
Crystal	Ketchum	Shoecraft	

Rivers / Streams (190):

ALL CREEK	DEER CREEK	MEADOW CREEK
ANDERSON CREEK	DICK CREEK	MF SF SULTAN RIVER
ARMSTRONG CREEK	DICKS CREEK	MILK CREEK
ASHTON CREEK	DOLLY CREEK	MILK CREEK EAST FORK
BAEKOS CREEK	DOMO CREEK	MINERS CREEK
BALDY CREEK	DUBUQUE CREEK	MONTAGUE CREEK
BATH CREEK	DUFFEY CREEK	MURPHY CREEK
BEAR CREEK	DUSTY CREEK	NORTH CREEK
BEAR CREEK	EAGLE CREEK	SF FALLS CREEK
BEAR CREEK	ELK BASIN CREEK	NF RAPID RIVER
BEAVER CREEK	ELLIOTT CREEK	NF SKYKOMISH RIVER
BECKLER RIVER	EVERETT CREEK	NF SF SULTAN RIVER
BEDAL CREEK	EVERGREEN CREEK	NF WALLACE RIVER
BENDER CREEK	EXCELSIOR CREEK	OLNEY CREEK
BLACK CREEK	FERN CREEK	OWL CREEK
BLACK CREEK	FIVE CREEK	PALMER CREEK
BLACKJACK CREEK	FOURTH OF JULY CREEK	PASS CREEK
BOARDMAN CREEK	FRENCH CREEK	PEARSALL CREEK
BOULDER CREEK	FRENCH CREEK	PERRY CREEK
BOULDER CREEK	GAMMA CREEK	PILCHUCK RIVER
BOULDER CREEK	GERKMAN CREEK	PORTAGE CREEK
BOULDER RIVER	GLACIER CREEK	PROCTOR CREEK
BROOKS CREEK	GOBLIN CREEK	PUGH CREEK
BUCK CREEK	GOODMAN CREEK	PUMICE CREEK
CADET CREEK	GORDON CREEK	QUARTZ CREEK
CAMP CREEK	GRANT CREEK	QUILCEDA CREEK MF
CANYON CREEK	HELENA CREEK	QUILCEDA CREEK WF
CANYON CREEK	HOWARD CREEK	RAPID RIVER
CARPENTER CREEK	JIM CREEK	RED CREEK
CATHERINE CREEK	JOHNSON CREEK	SADDLE CREEK
CHERRY CREEK	KELLY CREEK	SALMON CREEK
CHOCOLATE CREEK	KENNEDY CREEK	SAN JUAN CREEK
CHURCH CREEK	LIME CREEK	SAUK RIVER, NORTH FORK
CIRCLE CREEK	LITTLE JIM CREEK	SEVENTYSIX GULCH
CLEAR CREEK	LITTLE PILCHUCK CREEK	SILVER CREEK
COAL CREEK	LOST CREEK	SLOAN CREEK
COPPER CREEK	MALLARDY CREEK	SLOAN CREEK
CRANBERRY CREEK	MARSH CREEK	SMALL CREEK
CRYSTAL CREEK	MARTEN CREEK	SF SALMON CREEK
CUB CREEK	MAY CREEK	STILLAGUAMISH RIVER, NF & SF
DAN CREEK	MCCOY CREEK	SF TROUT CREEK
DECLINE CREEK	MEADOW CREEK	SPIRE CREEK
DEER CREEK	MEADOW CREEK	SQUIRE CREEK

STONY CREEK	UT FOURTH OF JULY CREEK	UT WILLIAMSON CREEK
STRAIGHT CREEK	UT FRENCH CREEK	UT SUIATTLE RIVER
SUIATTLE RIVER	UT GOBLIN CREEK	VESPER CREEK
SULPHUR CREEK	UT NF SKYKOMISH RIVER (4)	VISTA CREEK
SULTAN RIVER	UT NF CANYON CREEK	WALLACE RIVER
SWAMP CREEK	UT PROCTOR CREEK	WEDEN CREEK
TRIAD CREEK	UT RAPID RIVER (4)	WEST CADY CREEK
TROUBLESOME CREEK	UT SF STILLAGUAMISH RIVER	WF TROUBLESOME CREEK
TROUT CREEK	UT SILVER CREEK	WHITE CHUCK RIVER
TULALIP CREEK	UT SLOAN CREEK	WILEY CREEK
UT STILLAGUAMISH RIVER	UT SULPHUR CREEK	WILLIAMSON CREEK
UT BOARDMAN CREEK	UT TROUBLESOME CREEK (2)	WILSON CREEK
UT BOULDER RIVER	UT TROUT CREEK	WOODS CREEK
UT CADET CREEK	UT WEST CADY CREEK (4)	WORTHY CREEK
UT CANYON CREEK (4)	UT WHITE CHUCK RIVER (2)	YOUNGS CREEK

NF = North Fork

SF = South Fork

MF = Middle Fork

WF = West Fork

EF = East Fork

UT = unnamed tributary

UT (3) = three unnamed tributaries

Rivers included as shorelines of the state have been identified by USGS and Washington State Department of Ecology flow modeling. Statewide stream lists and the stream flow model used to locate the 20 cfs point are described on DOE's web site:

Stream list can be found here (near the bottom of the web page):

http://www.ecy.wa.gov/programs/sea/sma/st_guide/jurisdiction/rivers.html

Methodology for identifying shoreline streams is Western Washington (also near the bottom of the page):

http://www.ecy.wa.gov/programs/sea/sma/st_guide/jurisdiction/USGS_studies.html

Appendix B – Existing Ecological Conditions for Shorelines of the State in Snohomish County

Existing Conditions: Lakes						
Lake Name	Acres	No Public Access	No Docks	Wetlands	Water Quality Issues	Notes
Armstrong	30	•			Algae	Segments 2 and 3 remain less developed Over 65% of lake's watershed is forested or shrub cover
Big Greider	58		•			Sub-alpine, significant plant communities and habitats
Blanca	160					Little or no development within 200 feet of OHWM
Bosworth	104					Highly developed, less than 50% shoreline vegetation remains
Boulder	23		•			Little or no development within 200 feet of OHWM
Bryant	21			Large bogs	Algae	Shoreline used for resource production Classified as kettle lake with small watershed Flooding problems More than 70% vegetation intact
Cassidy	130			Large sphagnum peat bog	High nutrient levels	More public parks than most lakes Over 65% of lake's watershed is forested or shrub cover Motorized watercraft allowed One reach remains 70%+ vegetated
Chain	24		•	Large		One reach remains 70%+ vegetated
Cochran	33	•				Over 65% of lake's watershed is forested or shrub cover One reach remains 70%+ vegetated Residences have reduced vegetation in some areas
Connor	21					Shallow lake with many aquatic plants Most riparian vegetation intact except where cleared for private RV park and campground Used primarily for private recreational use
Copper	61		•			Little or no development within 200 feet of OHWM Highland forest lake with intact vegetation

Lake Name	Acres	No Public Access	No Docks	Wetlands	Water Quality Issues	Notes
Crabapple	38					Flooding noted as problem One segment remains 70%+ vegetated, contains Campfire camp Residences have reduced vegetation in some areas
Crystal	52	•		Large wetlands; sphagnum peat bog w/ unique plants		Significant portions undeveloped Dense development of Segment 1 has reduced vegetation One reach remains 70%+ vegetated
Dagger	30	•	•			More than 70% of shoreline remains vegetated Used primarily for resource production
East Boardman	46		•			Little or no development within 200 feet of OHWM
Echo	23		•	Large wetlands		All of shoreline is undeveloped Classified as kettle lake with small watershed
Flowing	132			Large wetland		Motorized watercraft allowed Proportionately more parks than other lakes, used heavily for recreation Development has modified shoreline and reduced vegetation
Frontal	43	•	•	Large wetlands		Significant portions of shoreline used for forestry, much of riparian vegetation has been logged
Getchell Acres	27	•	•	Large wetlands		Bog lake with little open water Vegetation mostly intact with little development
Goodwin	542					Motorized watercraft allowed Proportionately more parks than other lakes, used heavily for recreation Highly developed, less than 50% of vegetation intact Approx. 60% of riparian vegetation has been eliminated due to development, few habitat features remain Few aquatic plants exist, though milfoil is a problem Groundwater functions may be impaired by shoreline modifications and docks

Lake Name	Acres	No Public Access	No Docks	Wetlands	Water Quality Issues	Notes
Hannan	79	•	•			Primarily used for private recreation More than 70% of shoreline is vegetated and undisturbed Logging activity in sub-basin may impact groundwater
Howard	72				Algae, phosphorus, nitrogen	Over 65% of lake's watershed is forested or shrub cover One reach remains 70%+ vegetated Waterfowl concentration area
Hughes/Beavis	21	•		Wetlands, bogs		Bog lakes connected by wetlands Primarily private recreation use; Boy Scout camp on Hughes Little or no development within 200 feet of OHWM More than 70% of shoreline remains vegetated
Kellogg	20	•	•	Large wetlands, bogs		All of shoreline used for resource production Little or no development within 200 feet of OHWM Classified as kettle lake with small watershed Lake appears to be filling with plants and sediment Logging has impacted forested cover in basin
Ketchum	25			Large wetlands	Algae, fecal coliform, on CWA 303d for phosphorus	Vegetation and wetlands have been cleared and modified for development Small creek feeding lake drains from former dairy farm
Ki	101					Motorized watercraft allowed Segment 1 bordered entirely by state highway Residences and highway have reduced vegetation Nearly all residences have modified shoreline with fill
Lake Martha	62				Declining due to algae and phosphorus	Existing RV park has maintained vegetation in good condition Shoreline vegetation forms riparian corridor over 70% vegetated
Little	23	•	•			Shoreline 70%+ vegetated, though impacted by logging Logging in sub-basin may impact flow regimes
Little Greider	58		•			Little or no development within 200 feet of OHWM N. Cascades Highland forest w/ important natural plant communities

Lake Name	Acres	No Public Access	No Docks	Wetlands	Water Quality Issues	Notes
Loma	23				Algae, clarity	One reach remains 70%+ vegetated Most vegetation eliminated in Segment 1 Segment 2 in public ownership, vegetation preserved At risk for further decline in water quality due to excess waterfowl
Martha Lake	62				CWA 303d for phosphorus	Proportionately more parks than other lakes Clogging of outlet causes flooding Excess waterfowl Development has modified shoreline and nearly eliminated vegetation in Segment 1
Mud	26	•	•			More than 70% of shoreline remains vegetated Logging has impacted forest cover in sub-basin Presumed bull trout habitat
Panther	49			Large wetlands		Segment 2 more than 70% vegetated Segments 1 and 3 impacted by development Moderate to dense growth of aquatic plants; non-native water lily dominates
Purdy Creek Ponds	53	•		Isolated wetlands		Large isolated wetland lake, likely created by beaver dams Logging has impacted vegetation Located within FEMA 100-year floodplain
Riley	32			Emergent bog		Over 65% of lake's watershed is forested or shrub cover One reach remains 70%+ vegetated Surrounded by emergent bog wetlands Private recreational community and beach located in Segment 1
Roesiger	353					Used heavily for public recreation; motorized watercraft allowed Over 65% of lake's watershed is forested or shrub cover Most of shoreline modified by development, vegetation reduced Milfoil must be regularly removed from lake Alkalinity data indicate sensitivity to nutrient pollution

Lake Name	Acres	No Public Access	No Docks	Wetlands	Water Quality Issues	Notes
Serene	45					Highly developed with less than 50% vegetation intact Filled with dense aquatic plants; dominated by non-native water lily and native bladderwort Despite excess waterfowl, water quality remains good due to many plants High water levels cause flooding
Shoecraft	132					Used heavily for public recreation; motorized watercraft allowed Shoreline vegetation reduced or eliminated by development Must be monitored for milfoil
Spada	1800					Significant portions undeveloped, riparian vegetation largely intact Only developments are structures and modifications due to use by PUD as a water reservoir Water levels artificially controlled Impoundment lake created by a dam, dam prevents fish passage
Spring	25	•	•			Residential development has maintained setbacks, leaving vegetation intact Originally created by beaver dam; now replaced with earthen dam Over 65% of lake's watershed is forested or shrub cover More than 70% of shoreline remains vegetated
Stevens	1014			Large wetlands	Algae, poor clarity, fecal coliform, phosphorus	Used heavily for public recreation; motorized watercraft allowed Residential development has eliminated most riparian vegetation and wetlands; some wetlands associated with streams remain Outlet weir can be barrier to fish passage during low flows Highly developed with less than 50% of vegetation Aerator is used to reduce phosphorus levels
Stickney	25			Large forested wetland		Only lake supporting Chinook salmon More than 70% of shoreline remains vegetated Beaver dams impact lake levels Vegetation and wetlands in Segment 2 reduced or eliminated by development

Lake Name	Acres	No Public Access	No Docks	Wetlands	Water Quality Issues	Notes
Storm	76			Large wetland		One reach remains 70%+ vegetated Aquatic vegetation sparse Most residences in Segment 1 maintain vegetation along shoreline
Sunday	45		•	Large wetlands	Algae, poor clarity, CWA 303d list for phosphorus	Dense aquatic vegetation limits recreational uses
Sunset	41					Significant portions of shoreline undeveloped Little or no development within 200 feet of OHWM
Swartz	24		•			Over 65% of lake's watershed is forested or shrub cover Residential development has maintained setbacks, leaving vegetation intact Invasive Brazilian elodea is a problem, but is not controlled due to lack of public access
Thomas	100	•	•	Large wetlands	Algae, high nutrients	Large peat bog lake with over 100 acres of associated wetlands Some vegetation cleared for farming and peat mining
Tomtit	26	•	•	Large wetlands		N. Cascades lowland forest All of shoreline used for resource production Little or no development within 200 feet of OHWM More than 70% of shoreline remains vegetated
Twin	56			Large wetlands, Cub Creek system		N. Cascades lowland forest Most of shoreline used for resource production Little or no development within 200 feet of OHWM, small recreational facility on southern lake More than 70% of shoreline remains vegetated
Wagner	20			Large wetlands		Most of shoreline impacted by development, though large patches of forest remain Dense aquatic vegetation including yellow water lily and elodea
Wallace	54	•				Forested vegetation remains intact Little or no development within 200 feet of OHWM Fish passage limited by fish hatchery on Wallace River

Lake Name	Acres	No Public Access	No Docks	Wetlands	Water Quality Issues	Notes
Woods	22	•		Large wetlands, bog		Surrounded by large bog wetland with floating vegetation Significant portions undeveloped More than 70% of shoreline remains vegetated

Existing Conditions: Streams and Rivers				
Stream Name	Riparian Functions	Impervious Surface %	CWA 303d List	Notes
PORT SUSAN AND MAINSTEM STILLAGUAMISH DRAINAGES				
Port Susan Drainages	Missing	8-12%	Fecal coliform	Agricultural lands Residential development has reduced forest cover and may have altered flow regimes
Stillaguamish Mainstem	Missing	8-12%	Fecal coliform, dissolved oxygen	River channeled, disconnected from floodplain Filled wetlands Impacts from farming and sewage treatment plants
Church Creek	Impaired	< 7%	Fecal coliform	Some riparian intact, largely impacts by farming
Portage Creek	Missing	8-12%	Fecal coliform, sediment, temperature	Most vegetation has been removed by farming
Pilchuck Creek	Impaired	< 7%	Dissolved oxygen, temperature	Farming in lower reach, rural residential in upper reaches
Armstrong Creek	Impaired	< 7%		Farming and mining in lower reach, rural residential in upper reaches Riparian buffer preserved but bisected by roads and utility corridors Harvey Creek (fecal coliform) flows into Armstrong
NORTH FORK STILLAGUAMISH DRAINAGES				
Lower NF Stillaguamish	Impaired	< 7%		Riparian vegetation impacted by farming Channel migration constrained by trail Excess sediment from logging and bank erosion upstream Impacts from farming and failing septic systems
Middle NF Stillaguamish	Impaired	< 7%	Fecal coliform	Residential development and farming have reduced vegetation Landslide creates excess sediment Bridge, roads, and trail impact channel migration High fecal coliform in some segments
Upper NF Stillaguamish	Impaired	< 7%		Logging has increased sediment and impacted flows

Grant Creek	Impaired	< 7%		Farming and residential in lower reach removed riparian vegetation Resource management in upper reach, riparian vegetation intact
Deer Creek	Impaired	< 7%	Temperature	Farming, road crossings in lower reach Resource management in upper reach, riparian vegetation intact
Brooks Creek	Healthy	< 7%		Minimal riparian disruption in lowest reach Resource management in upper reach, riparian vegetation intact
Montague Creek	Impaired	< 7%		Lower reach impaired by highway and utility corridors Resource management in upper reach, riparian vegetation intact
Rollins Creek	Healthy	< 7%		Resource management, riparian vegetation intact Potential impacts from logging roads
Dicks Creek	Healthy	< 7%		Very short reach subject to SMP
Boulder River	Impaired	< 7%		Lower reach impaired by hwy and utility crossing Resource management in upper reach, impacted by logging, riparian regrowth
French Creek	Impaired	< 7%		Lower reach impaired by hwy and utility crossing, Stillaguamish Country Club Resource management in upper reach, impacted by logging, riparian regrowth healthy - provides habitat benefits
Segelsen Creek	Healthy	< 7%		Slight riparian impacts at mouth from development, overall healthy Resource management in upper reach, riparian vegetation intact
Squire Creek	Impaired	< 7%	Temperature	Lower reach impacted by development and hwy and utility crossings Farming and logging in upper reach; riparian vegetation and temperature impacts
Ashton Creek	Impaired	< 7%		Farming in lower reach impacting riparian vegetation Resource management in upper reach; riparian regrowth healthy - provides habitat benefits
SOUTH FORK STILLAGUAMISH DRAINAGES				
Mouth SF	Missing	< 7%	Temperature, phosphorus	Riparian vegetation reduced by farming, residential development Excess sediment from upstream sources High temps and levels of fecal coliform
Jim Creek	Impaired	< 7%		Some residential and agricultural uses have caused areas of mature vegetation mixed with fields Forest cover impact by clearing, may impact flows Excess sediment
Cub Creek	Healthy	< 7%		Subbasin has been logged heavily but riparian vegetation intact/recovering Significant wetland systems along stream and Twin Lakes

Lower SF	Impaired	< 7%		Large segments of riparian vegetation missing, farming, residential uses, utility corridor, roads parallel to river
Lower Canyon Creek	Impaired	< 7%		Riparian vegetation somewhat intact but impacted by farming, mining, logging and residential development
Upper Canyon Creek	Healthy	< 7%		Upper Canyon Creek and unnamed tributary impacts by logging and road/hwy, riparian vegetation intact. Tributary has huge wetland system, high habitat value.
North Fork Canyon Creek		< 7%		
Middle SF	Healthy	< 7%	Dissolved oxygen, fecal coliform, temperature	Residential uses, mining, logging but riparian largely intact regrowth Water quality problems in lower portion just east of Granite Falls
Cranberry Creek	Impaired	< 7%		Residential, farming, hwy crossing all on short reach in SMP jurisdiction
Upper SF	Healthy	< 7%		Riparian and basin vegetation intact, some residential upper east reach High priority protection sub-basin per WRIA5 salmon recovery plan
Black Creek	Healthy	< 7%		Logging and forest roads, riparian intact
Boardman Creek	Healthy	< 7%		Logging and forest roads, riparian impacted – regrowth established
SNOHOMISH ESTUARY AND MAINSTEM DRAINAGES				
Tulalip Creek	Impaired	< 7%		Riparian cleared in lower extent of SMP jurisdiction – old buffalo farm, road crossing Known fecal coliform at mouth in seeps on beach at Tulalip Bay– buffalo, septic or tribal sewer utility?
Quilceda Creek	Impaired	> 13%	Dissolved oxygen, fecal coliform	Riparian vegetation reduced by residential Many road and bridge crossings, ditching, and channelization High fecal coliform, low oxygen Unique freshwater tidal surge wetland with unique plant communities
West Fork Quilceda Creek	Impaired	> 13%		I-5, 116 th – major road crossings in small reach included in SMP jurisdiction
Lower Snohomish & Sloughs	Missing	> 13%	Dissolved oxygen, fecal coliform, phosphorus, temperature	Riparian vegetation reduced by farming River has been channeled, diked and disconnected from floodplain and wetlands Bridge interrupts transport of LWD Large wetlands filled Estuarine wetland, nearshore FWA, R Waterfowl concentration area Sewer and stormwater facilities for Everett, Marysville and Snohomish

Cathcart Drainages	Missing	< 7%		Farming and logging have reduced or eliminated most shoreline vegetation Floodplain functions and channel migration impacted by channelization via dikes and armoring Historically, many wetlands filled thereby reducing flood holding capacity Low levels of dissolved oxygen due to farming and low flows
Fobes Hill Drainages	Missing	> 13%		Most vegetation cleared for urban development and lumber yard Floodplains and channel migration limited by armoring and urban development High fecal coliform, high temp
French Creek	Missing	8-12%	Dissolved oxygen, fecal coliform,	Most riparian and forest cover eliminated by residential and farming Vegetation consists mostly of fields with some forest cover Creek has been straightened and ditched, wetlands cut off from channel Flow regimes altered Poor WQ, low oxygen, high temp, high fecal coliform Pump station blocks some or all fish passage
Snoqualmie River	Missing	< 7%	Temperature	Riparian vegetation reduced or eliminated by farming Armoring and dikes limit channel migration, river disconnected from floodplain High temp
Cherry Creek	Healthy	< 7%		Very short reach in SnoCo. Shoreline vegetation relatively undisturbed Logging in basin has impacted forest cover Logging may have impacted sediment and water flows
PILCHUCK RIVER DRAINAGES				
Lower Pilchuck River	Missing	8-12%	Fecal coliform	Riparian vegetation mostly cleared for residential and farming, leaving some forest patches Floodplain extensively modified and diked Flow regimes likely impacted by high levels of impervious surfaces
Dubuque Creek	Impaired	8-12%		Shoreline vegetation mostly cleared, some remains on south bank WQ not regularly monitored, but seems fine
Little Pilchuck Creek	Impaired	< 7%		Shoreline vegetation mostly cleared for residential and small farms Flow regimes may have been altered by reduced forest cover Multiple road crossings
Catherine Creek	Impaired	> 13%		Riparian vegetation largely present but impacted/reduced by rural residential development, farming

Middle Pilchuck River	Impaired	< 7%	Fecal coliform, temperature	Riparian vegetation mostly cleared for residential and farming, leaving some forest patches Water withdrawals from City of Snohomish can take 10-20% of summer low flows High spawning and holding areas
Worthy Creek	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
Upper Pilchuck River	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
Boulder Creek	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
Wilson Creek	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
Dick Creek	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
SKYKOMISH RIVER DRAINAGES				
Lower Skykomish	Impaired	< 7%	Fecal coliform, temperature	Riparian vegetation reduced by farming on left bank Several large forested patches remain on right bank near Monroe City of Monroe has sewage outfall
Richardson Creek	Impaired	8-12%		Riparian missing in lower reach due to farming activity, intact north of road crossing
Woods Creek	Impaired	< 7%		Riparian vegetation reduced or eliminated by farming and residences High percentages of sand and gravel High sediment, but flow regimes intact High fecal coliform Culverts prevent fish passage
West Fork Woods Creek		< 7%		High sediment, flow regimes intact High fecal coliform due to farming and failing septic systems
Carpenter Creek	Missing	< 7%		Small amount of riparian remains in far upper and lower reaches, missing over entire central reaches - farms
Elwell Creek	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
Youngs Creek	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
Middle Skykomish	Impaired	< 7%		Braided reach, dynamic channel with many side channels Many habitat features; large blocks of riparian intact Armoring and SR2 limit channel migration High temps due to clearing vegetation (not on 303d list)

McCoy Creek	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads Rural residential in central reach
Lower Wallace River	Impaired	< 7%		Farming, rural residential, railroad, road crossings
Bear Creek	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
May Creek	Impaired	< 7%	Temperature	Riparian vegetation reduced by farming, logging and residential – missing in lower reach, impacted in central reach, healthy in far upper reach – may be impacted by logging in far upper reach Road crossings may impact channel functions
Olney Creek	Impaired	< 7%		Riparian vegetation impacted by heavy, recent logging in central reach Riparian healthy in upper reaches Road and bridge crossings may impact channel functions Falls limit fish access to most segments
Middle Wallace River	Impaired	< 7%		Hatchery weir limits fish access Riparian vegetation reduced by farming, rural residential, road crossings, utility corridor
North Fork Wallace River	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
Upper Wallace River	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
Duffey Creek	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
Upper Skykomish	Impaired	< 7%	Fecal coliform, temperature	Riparian reduced by residential, road and railroad crossings, mining – large segments intact
Proctor Creek	Impaired	< 7%		Residential devel and mining in lowest reach; heavy, recent logging above w/ riparian corridor preserved by impacts due to adjacent roads and clearcut
Deer Creek	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
Anderson Creek	Impaired	< 7%		Only mouth is in county SMP jurisdiction – impaired by road crossing and riparian vegetation removal for residential use (extent above mouth is healthy, intact)
North Fork Skykomish River	Impaired	< 7%		Some vegetation reduced due to residential, road and railroads; dense residential lot pattern; intact overall Railroad and roads constrain channel Sediment process may not be functioning properly in upper reach Fecal coliform 303d list at mouth of Lewis Creek
South Fork Skykomish River	Impaired	< 7%		Vegetation impacted in some areas by roads and railroads; dense residential lot pattern Channel constrained by roads and railroads

SULTAN RIVER DRAINAGES				
Lower Sultan River	Impaired	< 7%		Residential and farming Large blocks of vegetation intact in central and upper reaches, avg 60 years old Changes in flows due to dam and reservoir Dam blocks fish passage
Marsh Creek	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads Significant wetland system in upper reach
Middle Sultan River	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads Culmback dam limits flow regimes
South Fork Sultan River	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
Upper Sultan River		< 7%		Unique plant communities Culmback dam limits flow regimes, flow regimes are intact upriver Municipal water supply
Elk Creek	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
Boulder River	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
Vesper Creek	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
Kelly Creek	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
Williamson Creek	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
Stony Creek	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
Everett Creek	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads
CEDAR – SAMMAMISH DRAINAGES				
Swamp Creek	Impaired	> 13%		Urban and commercial development has reduced riparian vegetation High levels of impervious surfaces in basin have altered flow regimes Peak flows cause scouring of the channel Large wetlands moderate flow activities High fecal coliform due to development, low levels oxygen due to excess nutrients in upper reach (outside of county SMP jurisdiction)
North Creek	Impaired	> 13%		Urban and residential development has reduced riparian vegetation High levels of impervious surfaces in basin have altered flow regimes Peak flows cause scouring of the channel

Little Bear Creek	Missing	> 13%	Fecal coliform	Forest cover in basin impacted by residential, industrial uses, only minimal riparian corridor preserved Extensive wetlands provide significant flood storage functions Channelized by SR 522
SKAGIT RIVER DRAINAGES				
Sauk River	Healthy	< 7%		Many habitat features Riparian vegetation intact, forest cover reduced by logging, farming, residential; lumber mill and gravel pit Possible water quantity issues, naturally high sediment
Dan Creek	Healthy	< 7%		Riparian intact, may be impacts due to logging, forest roads

Existing Conditions: Marine Shoreline							
Segment	Public Access	Riparian Condition	% Developed	% Shore Armoring	% Feeder Bluff Armoring	CWA 303d List	Significant Issues
Can-1	Potential	Impacted	10.4	100			Upland vegetation removed by farming and diking/ armoring Important plant communities in nearshore vegetation Diking/armoring impacts floodplain connectivity Wetlands drained for farming and residential
Can-2	Potential	Impacted	0	11.5			Upland vegetation removed by farming and diking/armoring Important plant communities in nearshore vegetation Diking/armoring impacts floodplain connectivity Wetlands drained for farming and residential
Picnic Point-1	•	Healthy	28.1	86.7		Fecal coliform, dissolved oxygen	Vegetation on bluff and stream corridors intact Overhanging vegetation along beach has been eliminated by railroad tracks and armoring Trestle culverts limit water flow Norma Creek is on 303d list for high fecal coliform and low oxygen
Point Wells-1		Missing	99.3	95.5			Shoreline vegetation eliminated from filling by oil refinery Armoring for bulkhead impacts water and sediment movement Area is developed with oil refinery, asphalt factory, docks and bulkhead
Sno-0/ Sno-1a		Healthy	14.1	16.4		Contaminated sediments	Freshwater tidal surge plain with partially enclosed backshore salt marsh – contains unique plant communities Riparian vegetation intact Channel dredged for navigation Possession Sound is on 303d list for contaminated sediments
Sno-0/ Sno-1b		Healthy	0	2.6		Contaminated sediments	Backshore salt marsh is largely intact Multiple bridge crossings impact floodplain functions Possession Sound is on 303d list for contaminated sediments

Sno-0/ Sno-1c		Impacted	30.6	7.7		Contaminated sediments	Backshore salt marsh has been modified and cleared, though appears to be recovering Diking, armoring, and filling wetlands for commercial/industrial uses Multiple bridge crossings impact floodplain functions Possession Sound is on 303d list for contaminated sediments
Sno-1/ Sno-2	•	Impacted	78.8	79	70		Residential development and armoring have reduced vegetation Bluff armoring has impacted sediment flows
Sno-1b		Healthy	26.6	36.6	24.2		Vegetation intact on bluffs and overhanging beach Development at south end impacts vegetation
Sno-1c	•	Impacted	45.3	36.7	5.6		Development in areas has reduced vegetation, south of Kayak Pt. is intact Development at McKees Beach has eliminated backshore wetlands
Sno-1d		Impacted	33.8	49.7			Shoreline vegetation has been reduced by residential development and armoring Armoring at developed beach communities cuts off sediment source from beach
Sno-1e		Impacted	31.6	31.3	13.1		Shoreline vegetation has been reduced by residential development Invasive plants at Tulalip Shores boat launch
Sno-1f		Healthy	6.9	11.8	8.5		Very little development, shoreline vegetation intact
Sno-3/ Sno-4		Healthy	20.3	13.3	13.3		Very little development, shoreline vegetation intact
Sno-4	•	Missing	95.4	99.1	50.7	Contaminated sediments	Residential development and armoring has eliminated most vegetation Bulkheads likely impact sediment processes Large backshore wetland has been disconnected from saltwater, partially filled, and ditched Possession Sound is on 303d list for contaminated sediments

Warm Beach-1		Impacted	58.6	28.4		Fecal coliform	Shoreline vegetation reduced by bluff top residences in south Nearshore vegetation includes partially enclosed eulittoral salt marsh Armoring may impact sediment functions Port Susan is on 303d list for fecal coliform (due to farming and failing septic systems)
Warm Beach-2	•	Missing	81.7	92.3		Fecal coliform	Residential development and armoring has eliminated most vegetation Extensive armoring may impact transport of sediment Port Susan is on 303d list for fecal coliform (due to farming and failing septic systems)
Hat Island-1	potential	Missing	100	100		Contaminated sediments	Historically salt tolerant vegetation on tidal spit Shoreline vegetation cleared for marina and parking Dredging of spit and construction of breakwater for marina 303d list for contaminated sediments (area off marina)
Hat Island-2	potential	Healthy	25	8		Contaminated sediments	Filling and armoring seaward of OHWM for residences – likely interrupts littoral drift One area (point) is on 303d list for contaminated sediments
Hat Island-3		Healthy	50	12			Shoreline vegetation on bluff and beach has been reduced for residences Armoring and groins on shoreline impact littoral drift
Hat Island-4		Impacted	43	55			Bluff vegetation intact Armoring seaward of OHWM has eliminated overhanging vegetation for 67% of segment Armoring and groins on shoreline impact littoral drift Substantial feeder bluff intact High energy exposure
Hat Island-5		Impacted	24				Shoreline vegetation on bluff and beach has been reduced for residences Backshore wetlands have been filled and are cut off from saltwater Armoring for road alters drift patterns
Hat Island-6	potential	Healthy	17				Healthy shoreline vegetation overhanging beach No armoring – sediment and drift patterns intact

Stilly Estuary-1						Fecal coliform	Wetlands cleared and drained for farming Nearshore vegetation includes partially enclosed eulittoral salt marsh Port Susan is on 303d list for fecal coliform (due to farming and failing septic systems)
Stilly Estuary-2						Fecal coliform	Wetlands cleared and drained for farming Nearshore vegetation includes partially enclosed eulittoral salt marsh Diking and armoring of shoreline has impacted floodplain connectivity Port Susan is on 303d list for fecal coliform (due to farming and failing septic systems)

Appendix C – Cumulative Impact Analysis (CIA)